

FIG. 1

TOP OF SHEET

TOP VIEW

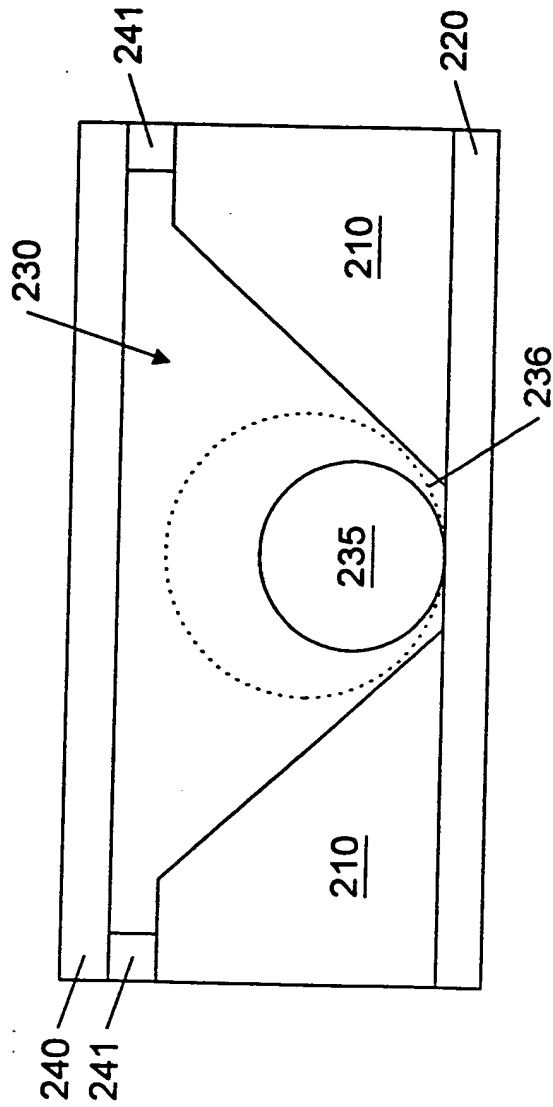


FIG. 2

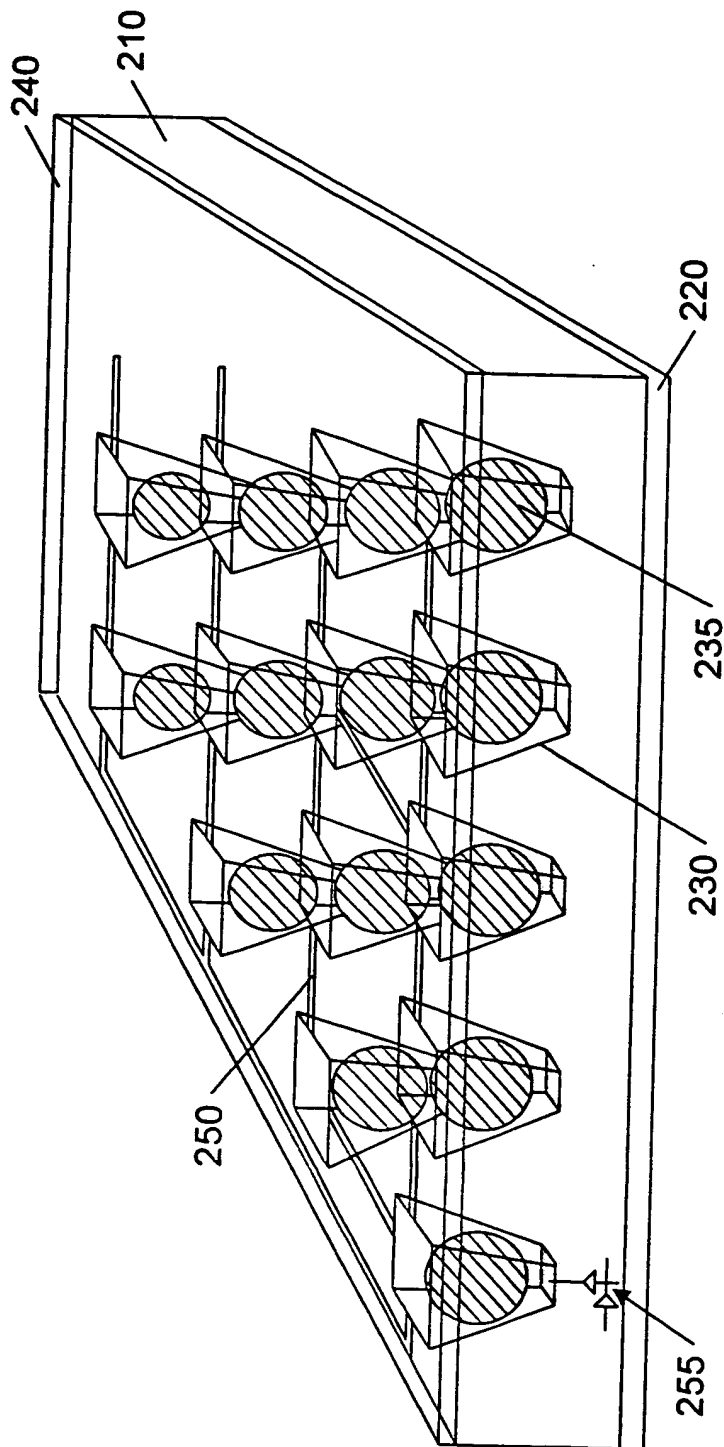


FIG. 3

OFFICE



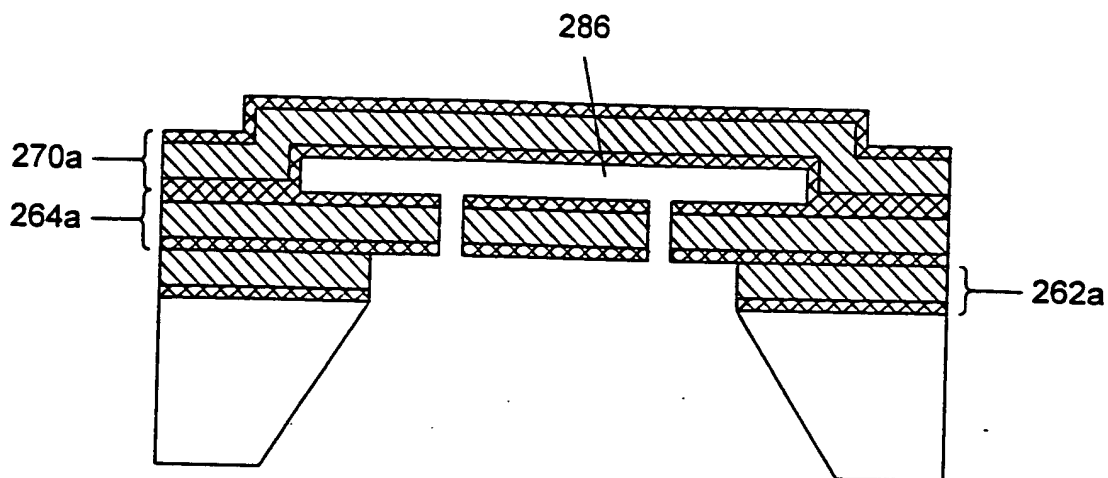


FIG. 4D

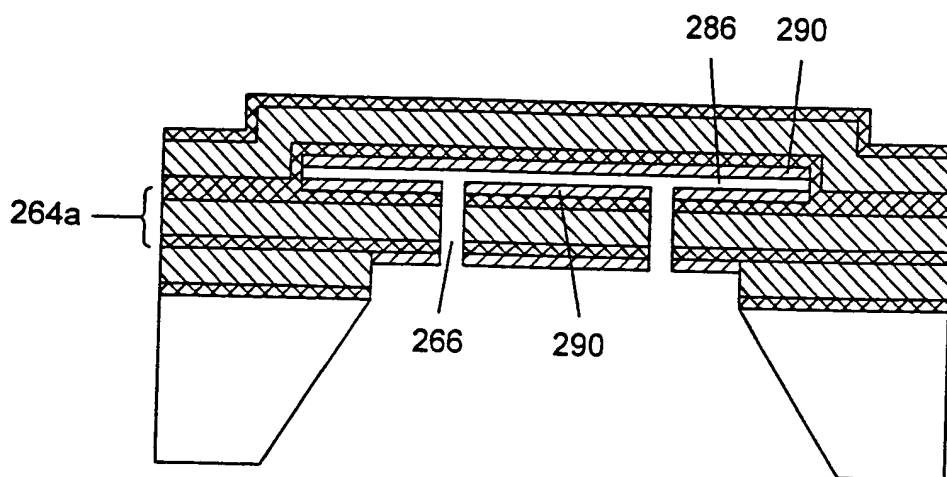


FIG. 4E

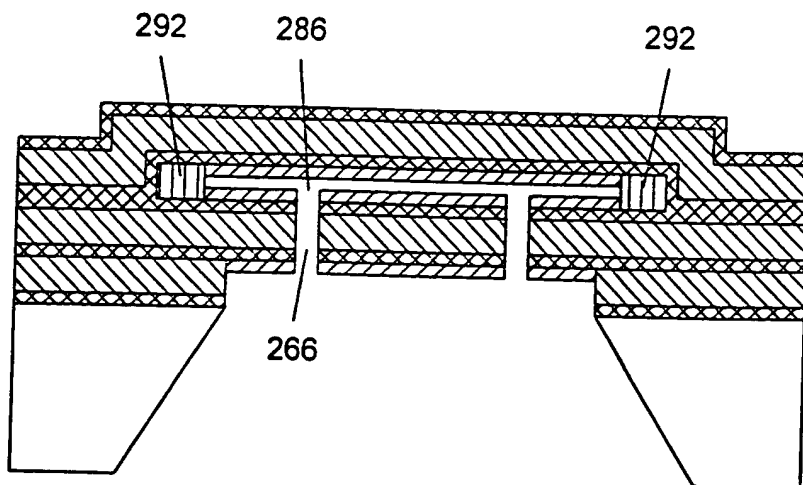


FIG. 4F

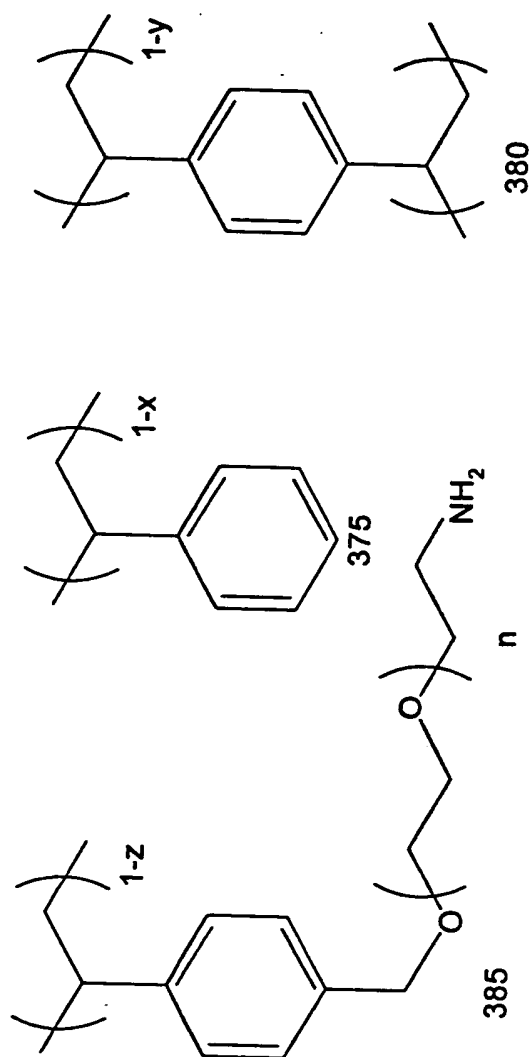
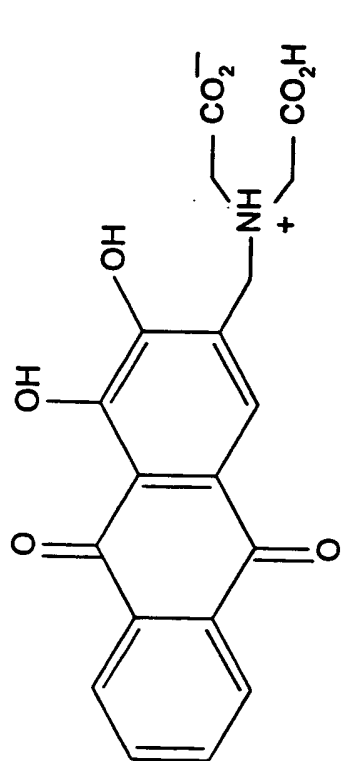
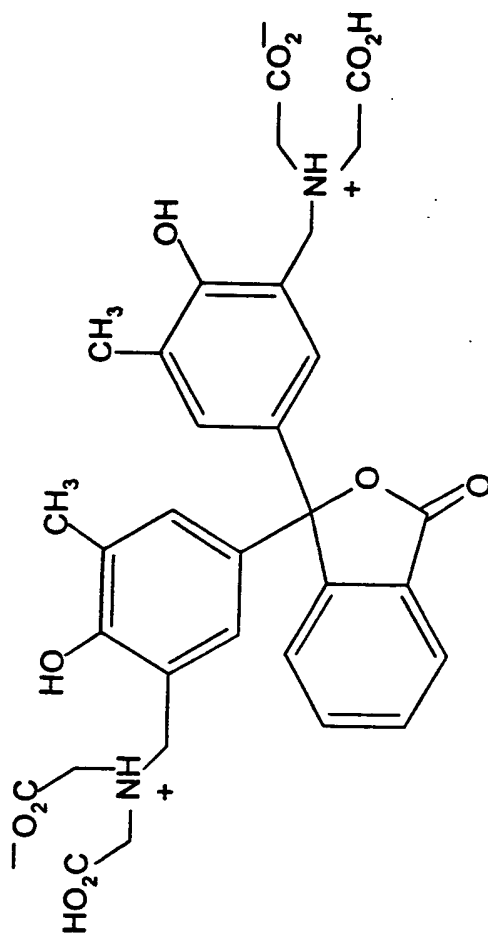


FIG. 5

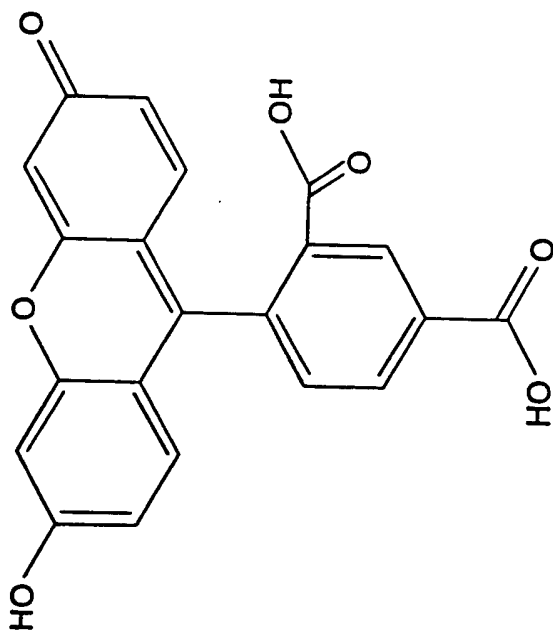
7/69



alizarin complexone



o-cresolphthalein complexone



5-carboxy fluorescein

FIG. 6

8/69

TOP OF PAGE

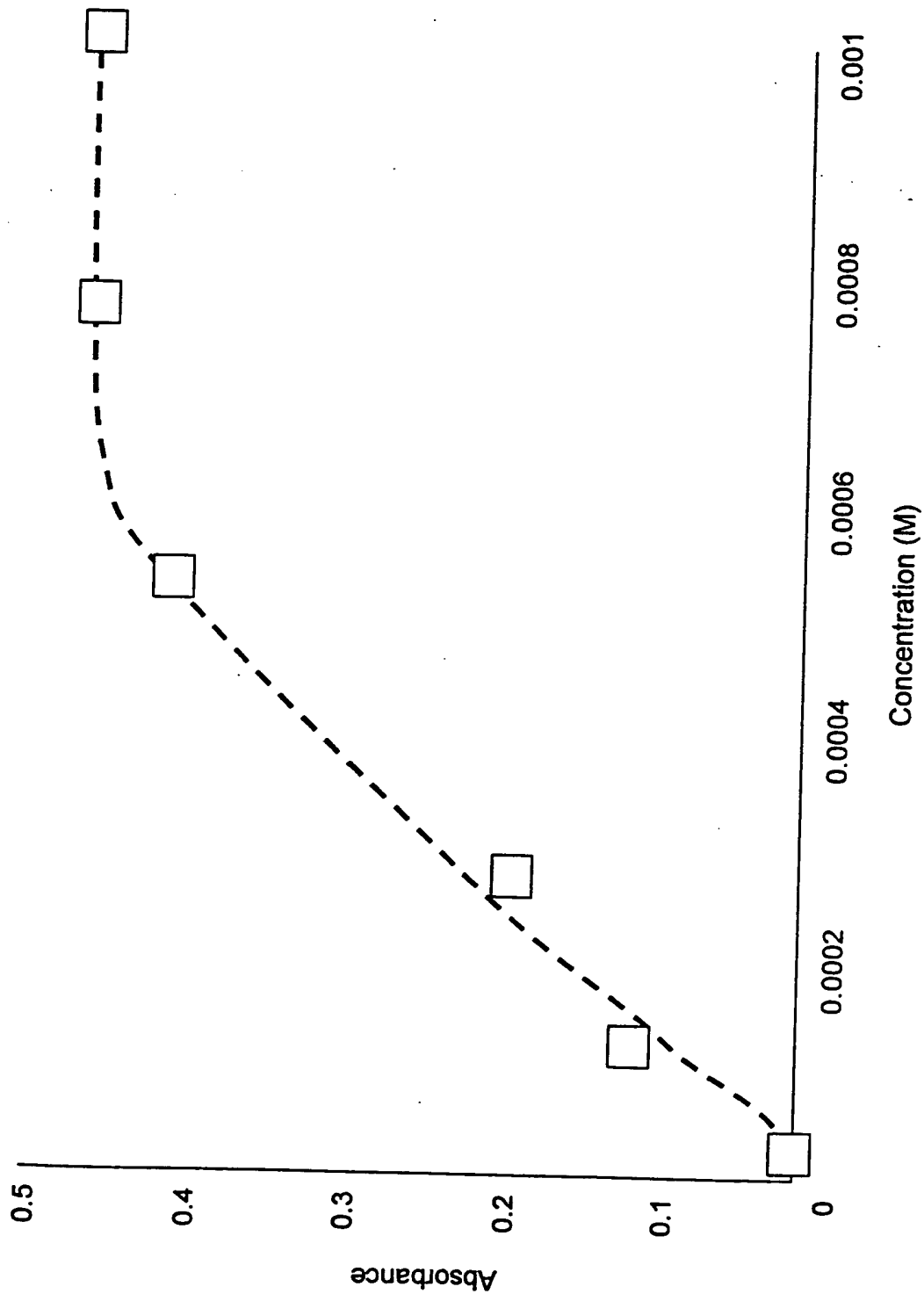


FIG. 7

9/69

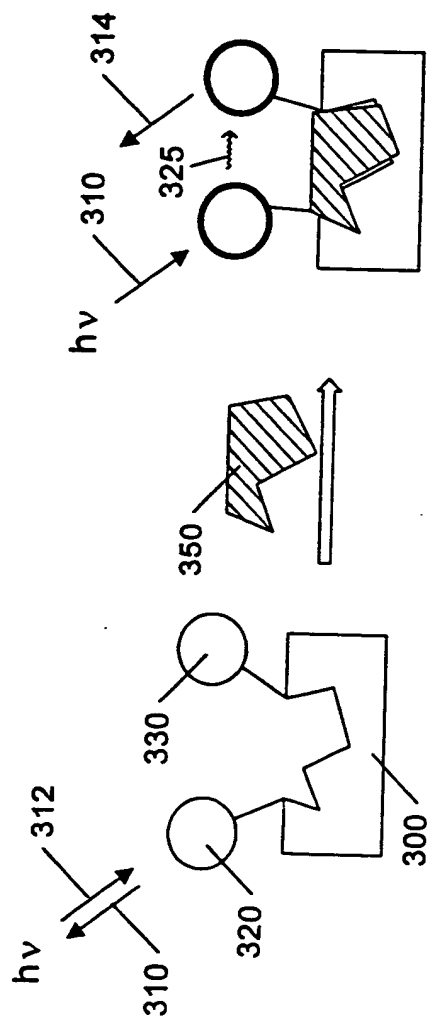


FIG. 8

10/69

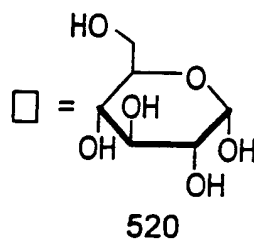
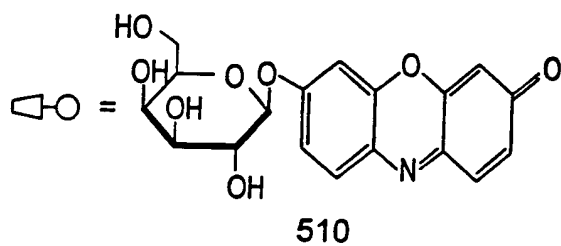
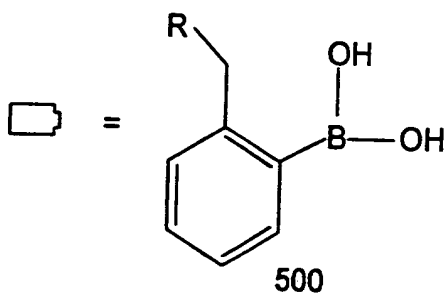
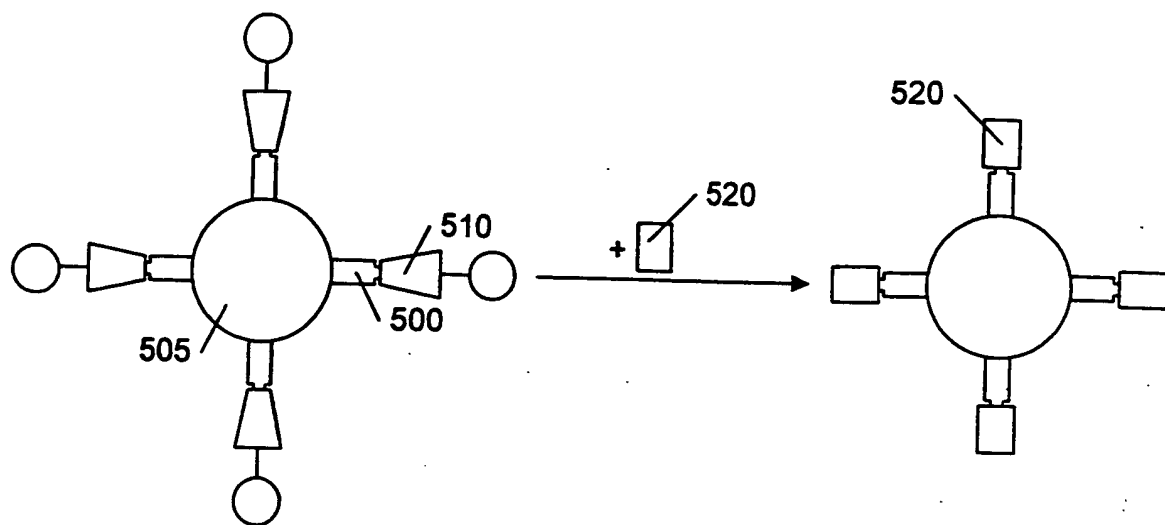
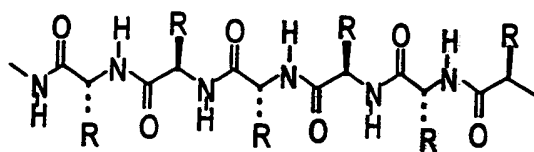
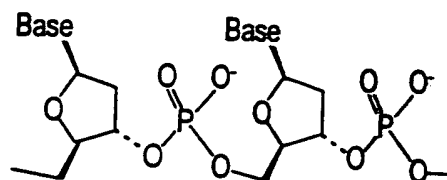


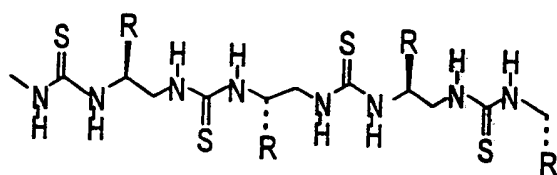
FIG. 9



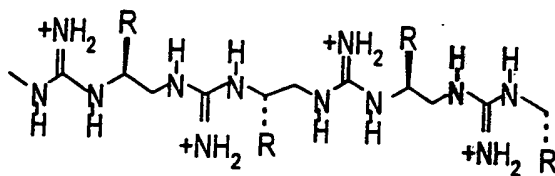
Peptides



Nucleotides



Polythioureas



Polyguanidiniums

FIG. 10

12/69

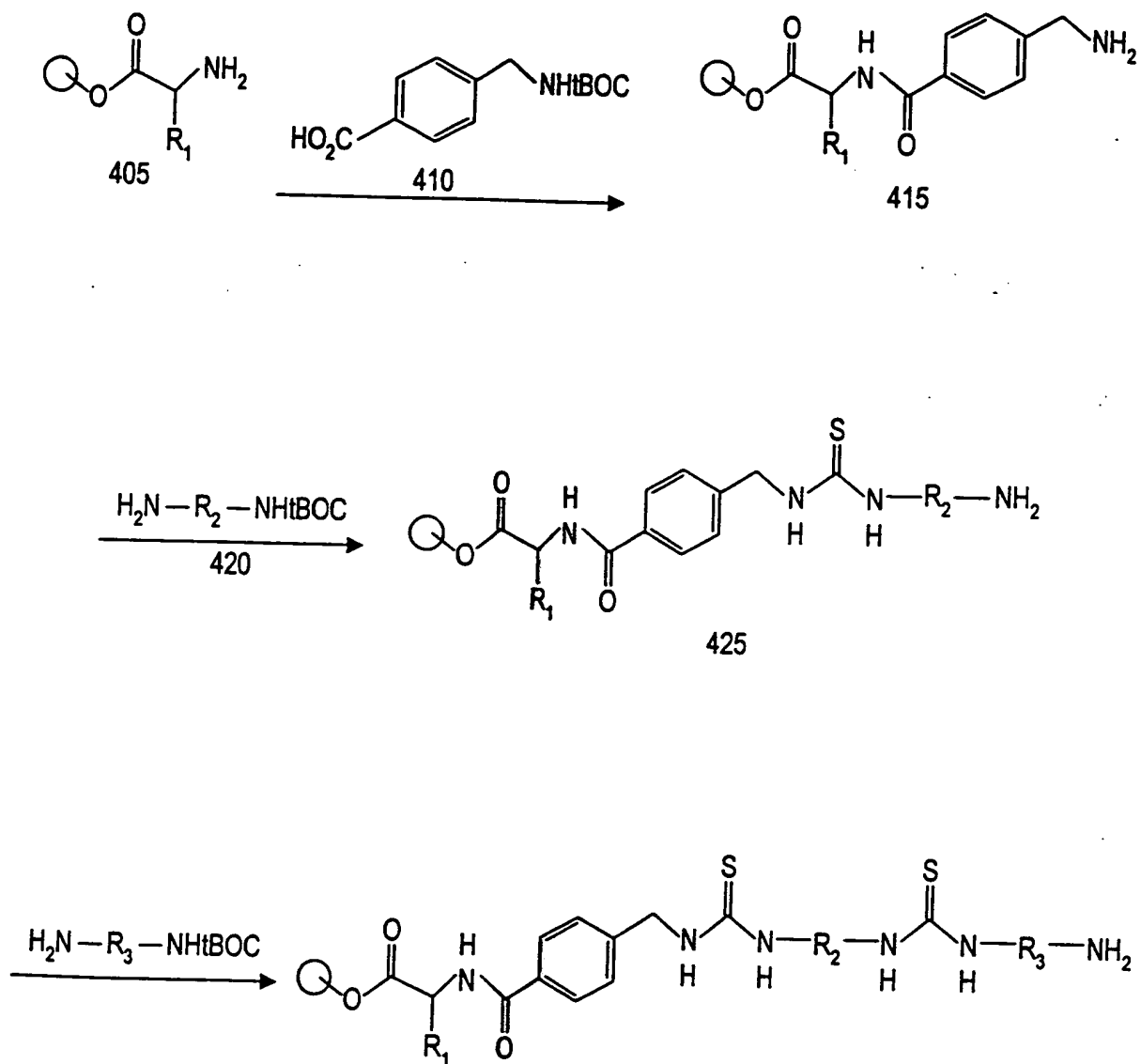


FIG. 11

13/69

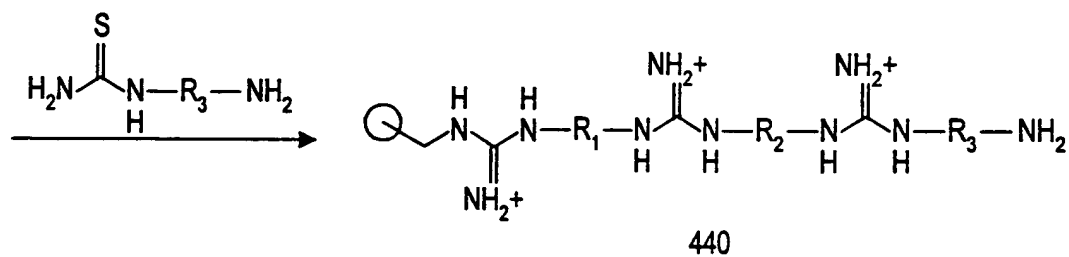
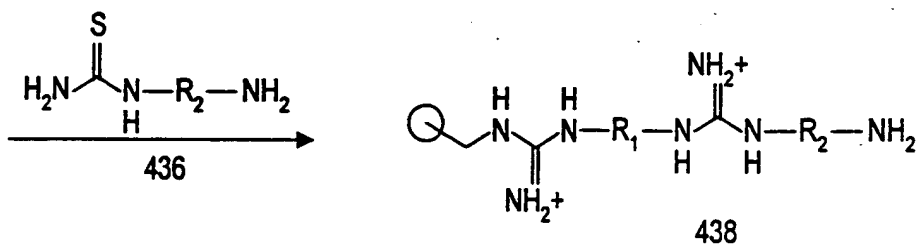
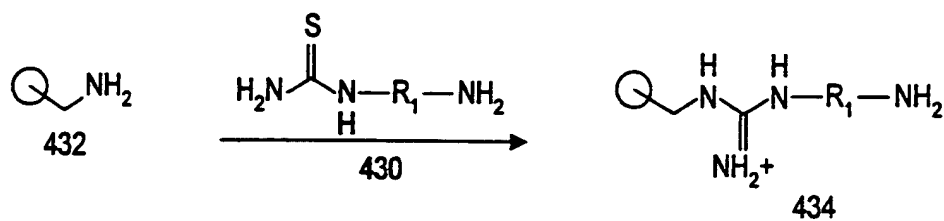


FIG. 12

04540-0101



FIG. 13

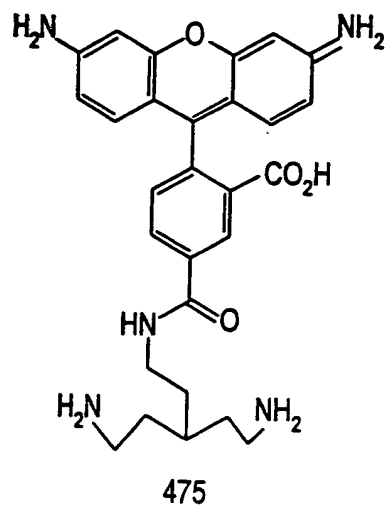
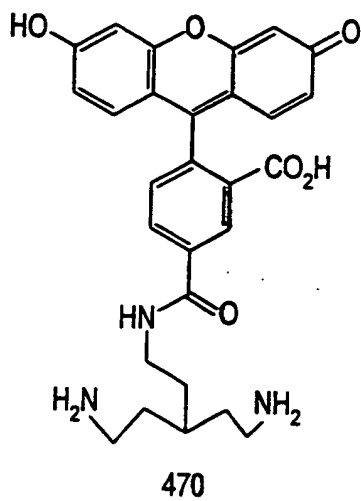


FIG. 14

16/69

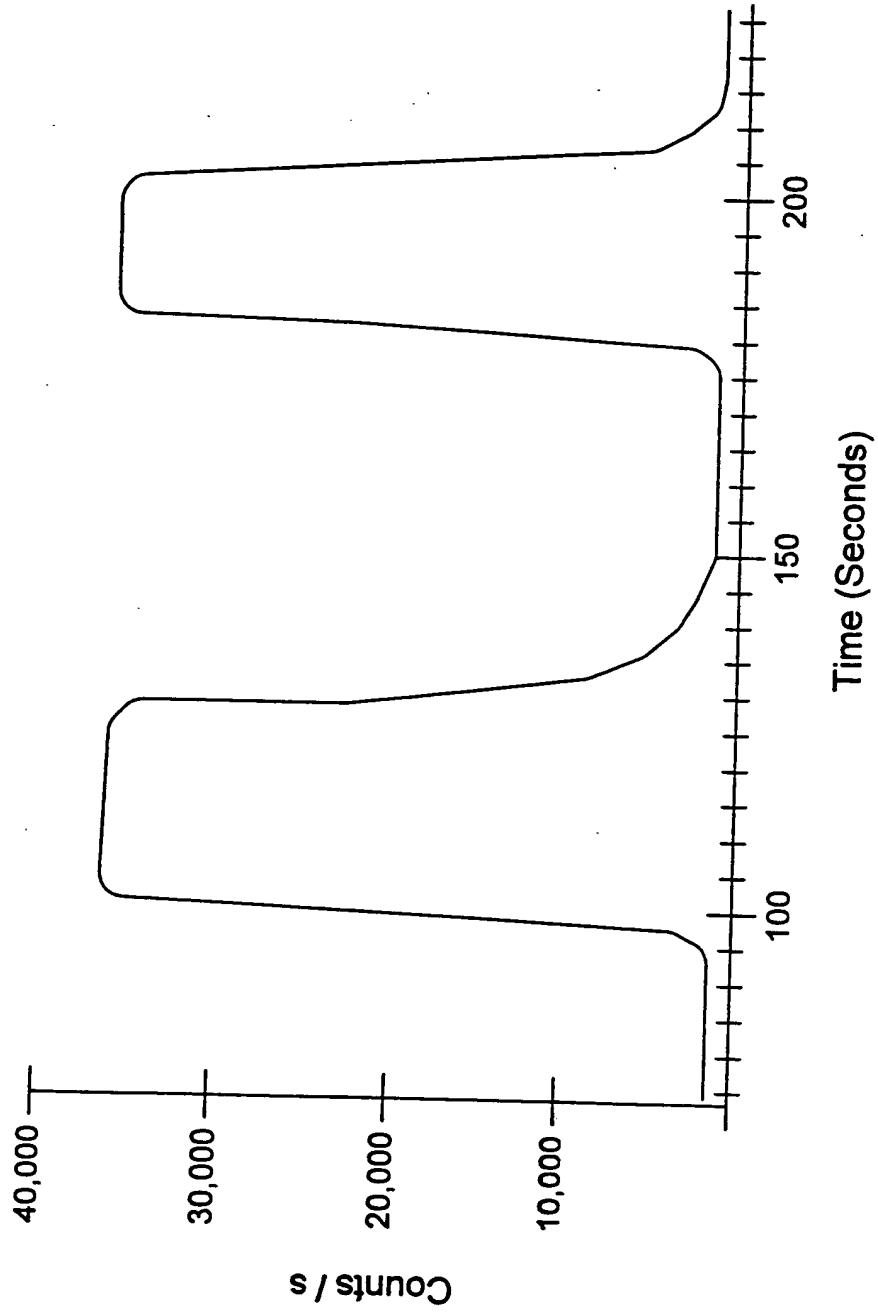


FIG. 15

TOP OF PAGE

RESIN: pH Ion		Blank	Alizarin	o-Cresol- phthalein	Fluorescein	Alizarin-Ce ³⁺ complex
2	none					
2	Ca ²⁺					
7	none					
7	Ca ²⁺					
7	F ⁻					
12	none					
12	Ca ²⁺					
12	F ⁻					

FIG. 16

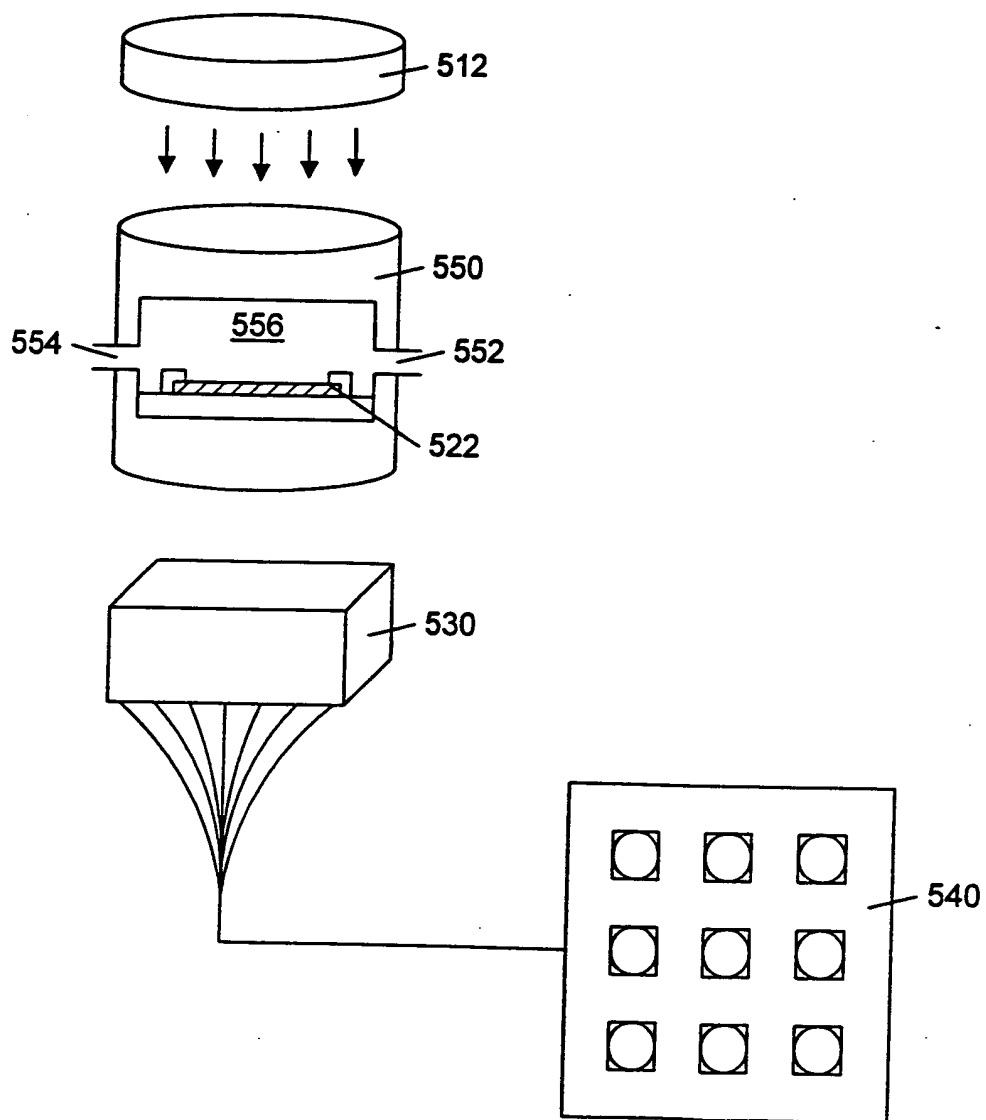


FIG. 17

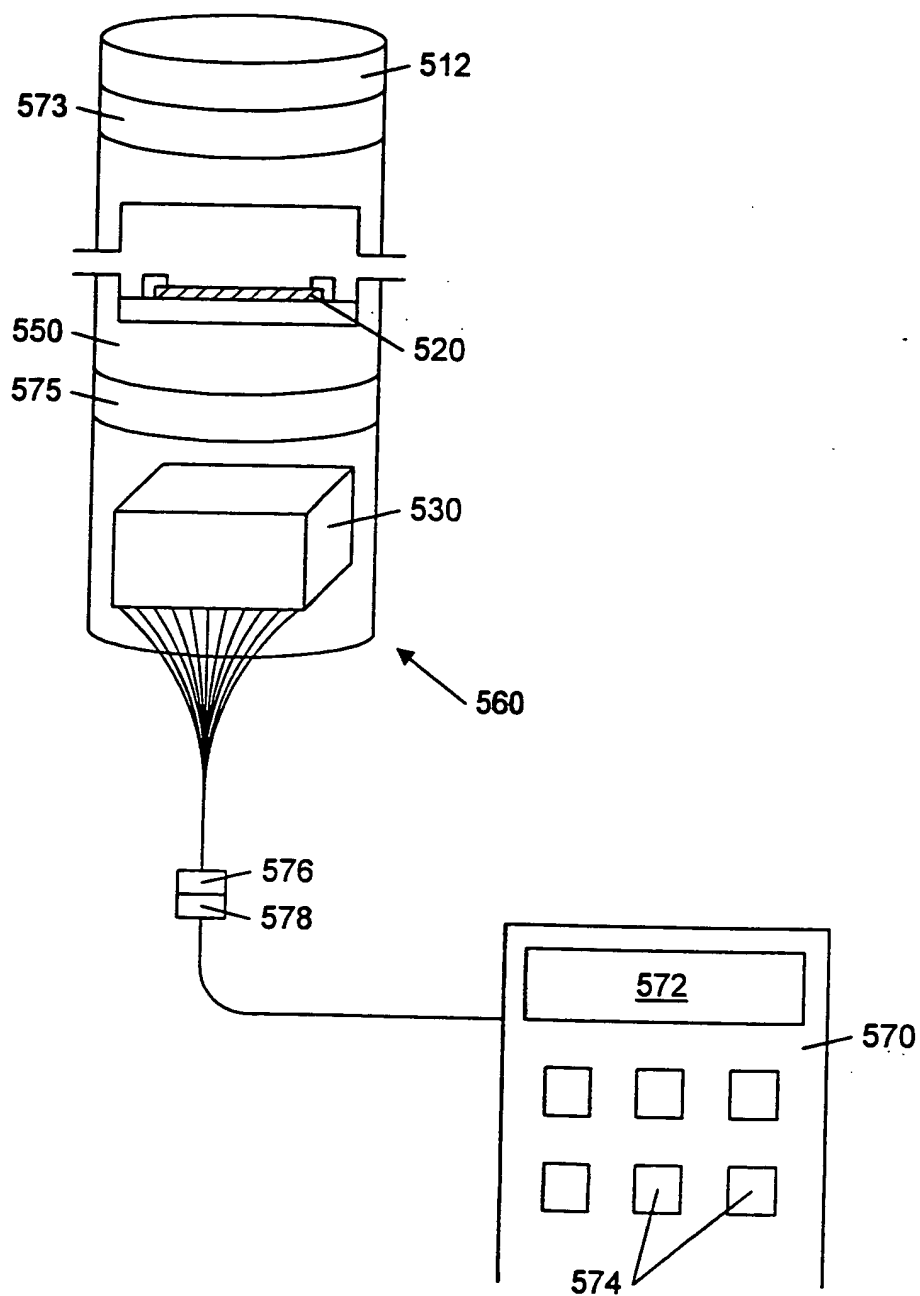
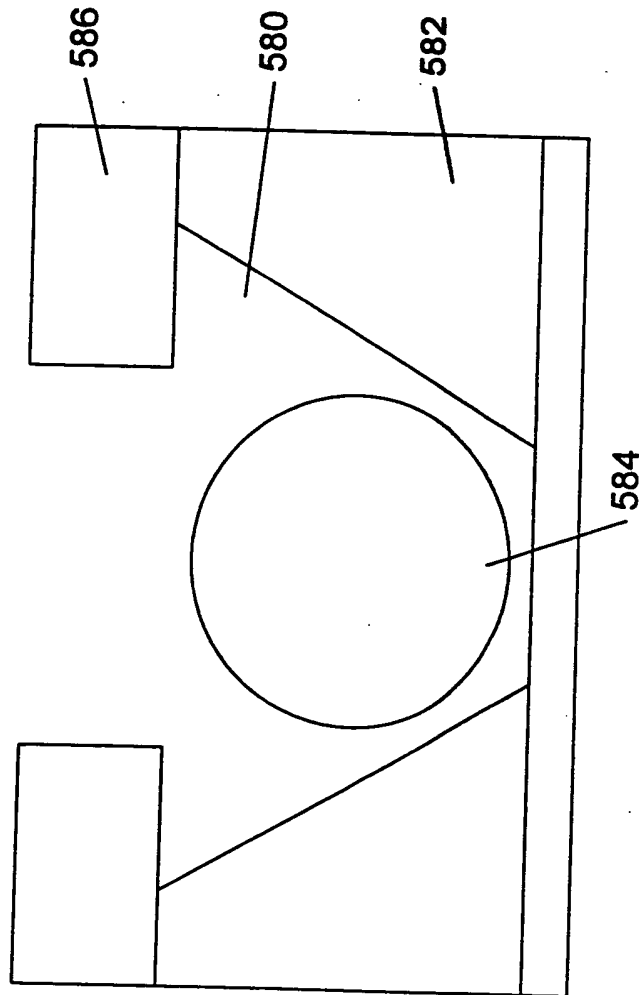


FIG. 18

FIG. 19



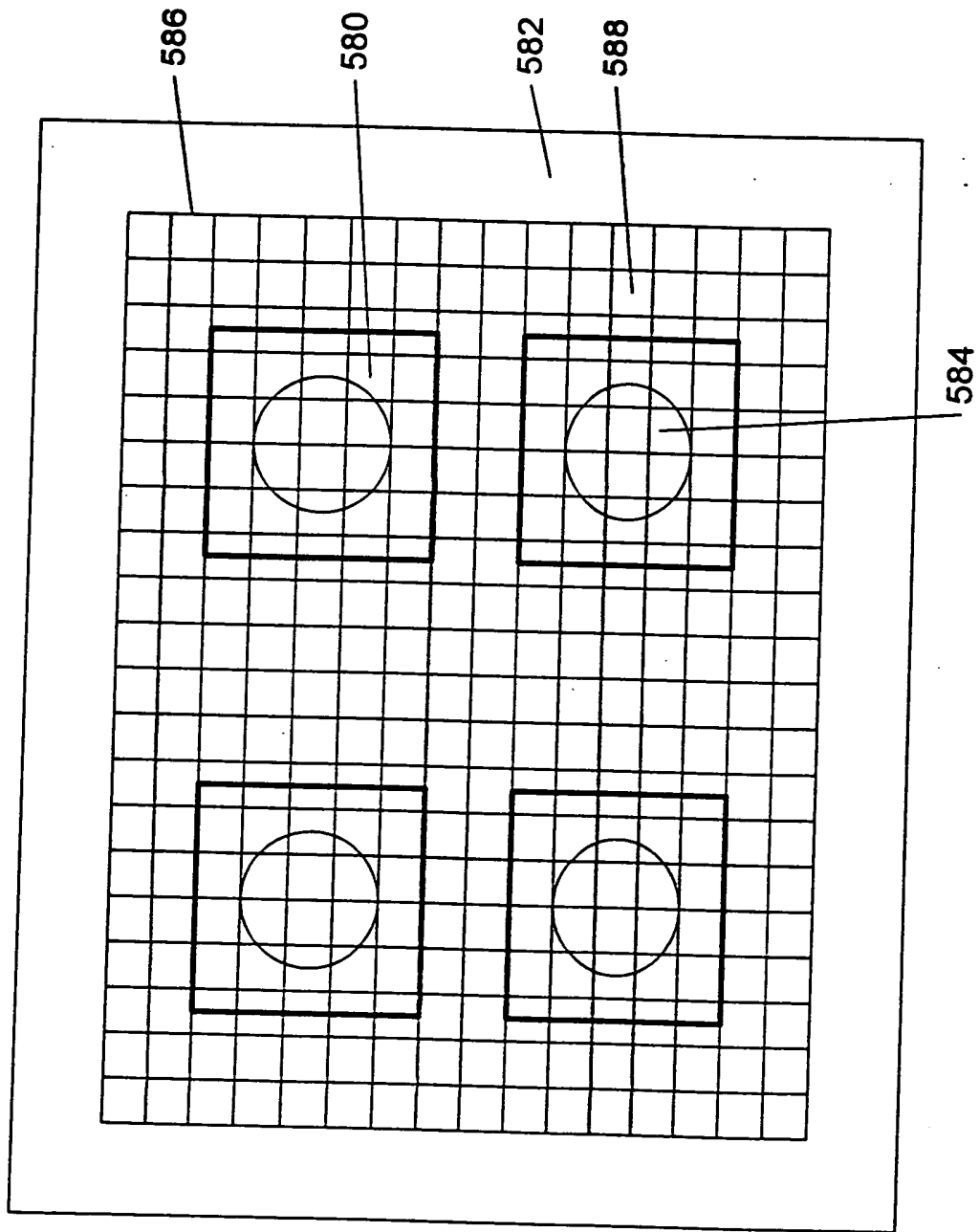


FIG. 20

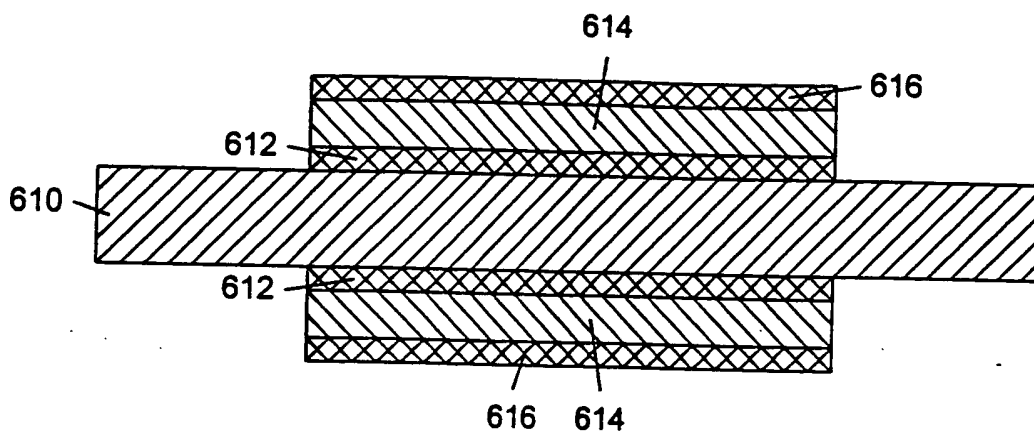


FIG. 21A

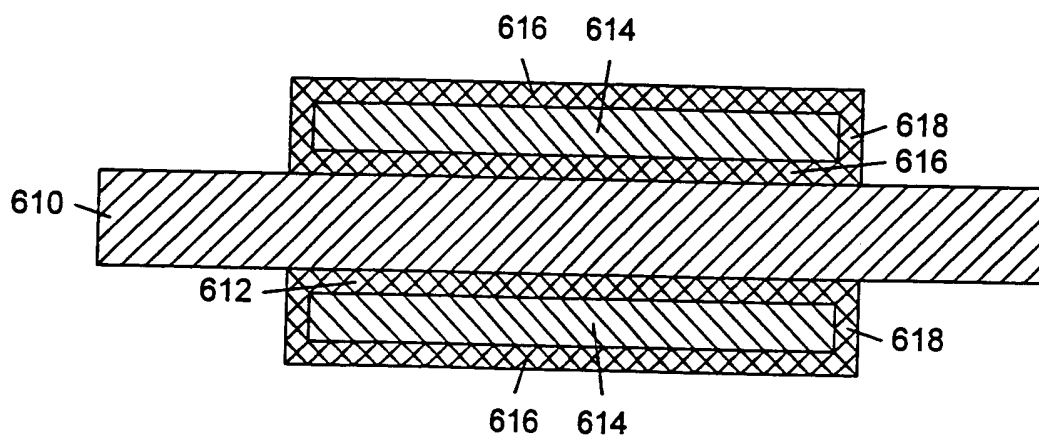


FIG. 21B

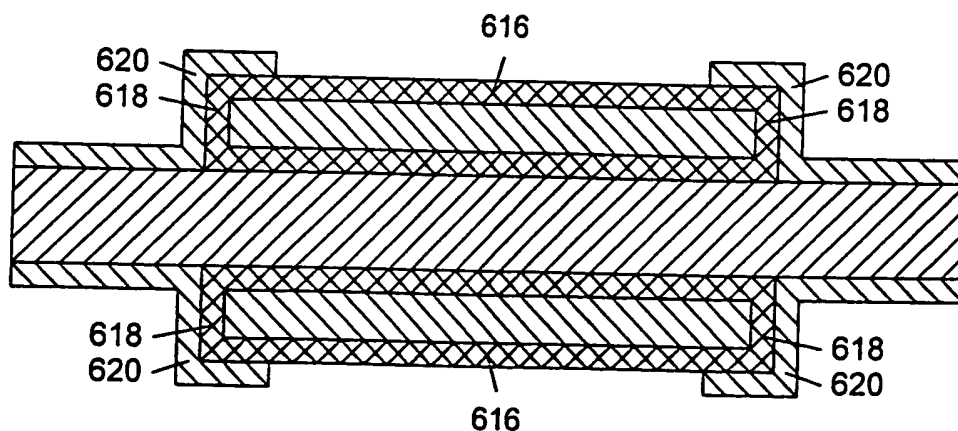


FIG. 21C

FIG. 21A

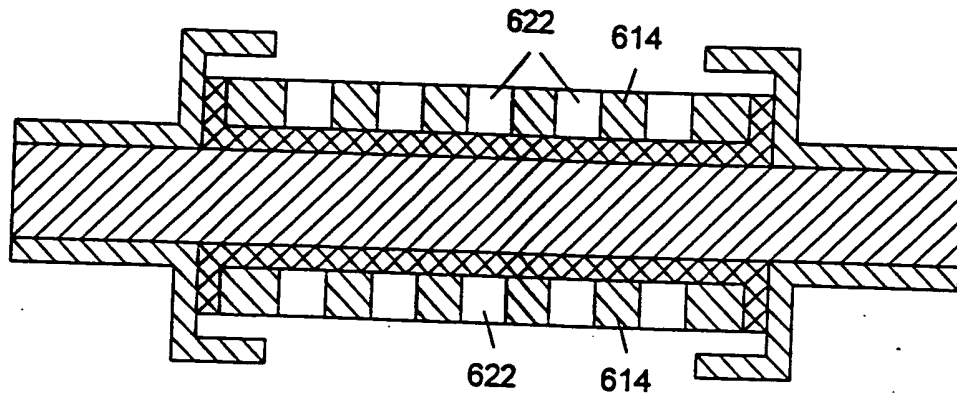


FIG. 21D

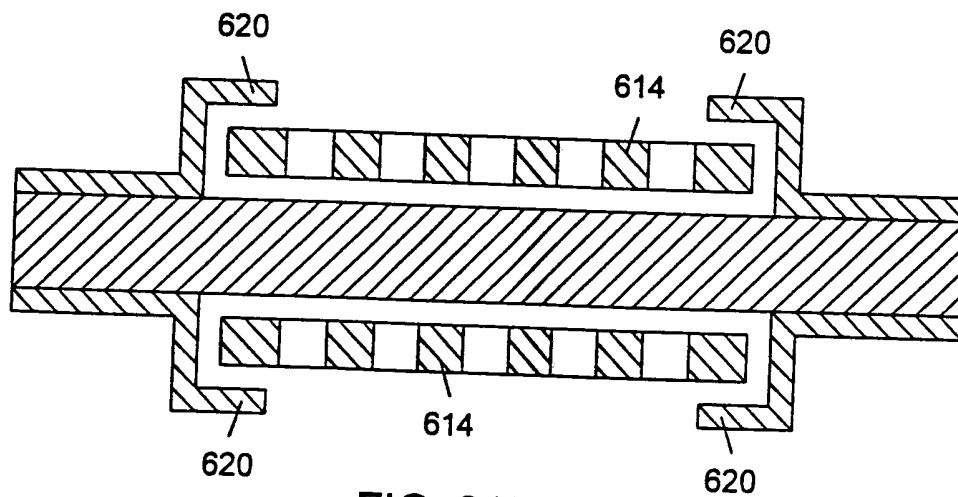


FIG. 21E

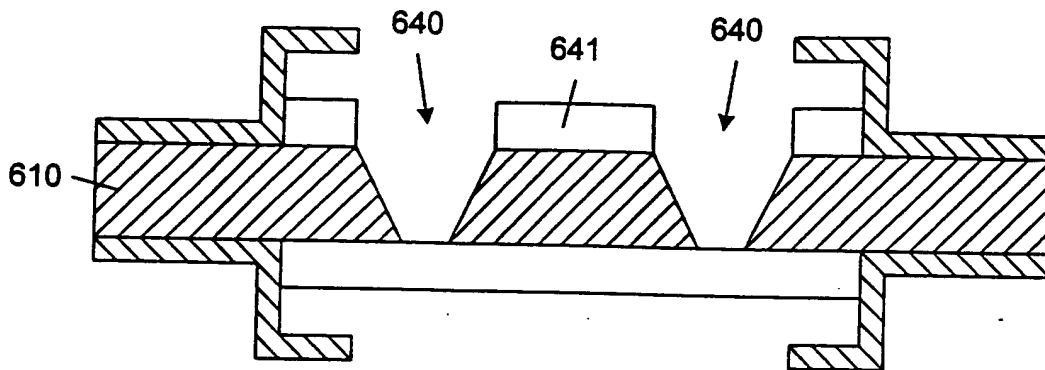


FIG. 21F

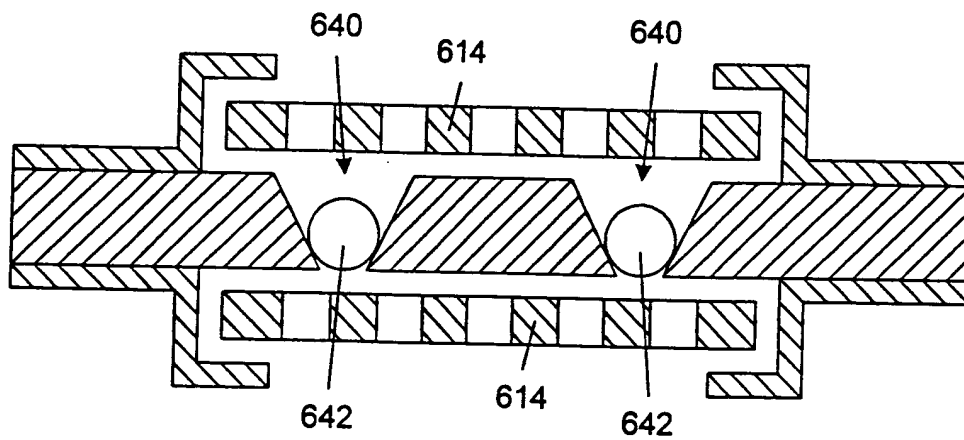


FIG. 21G

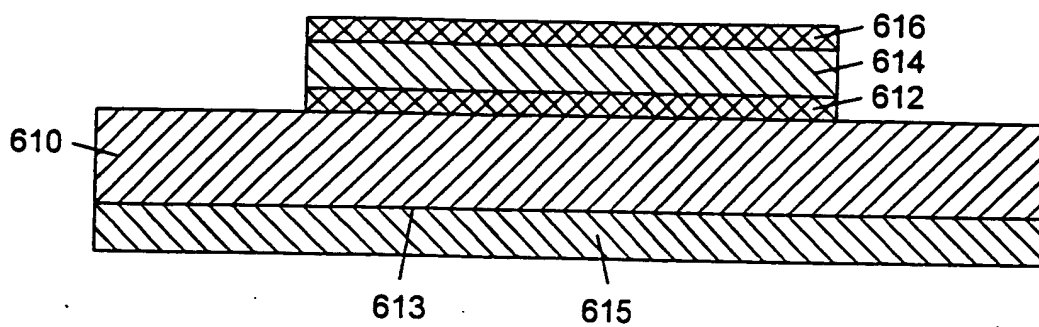


FIG. 22A

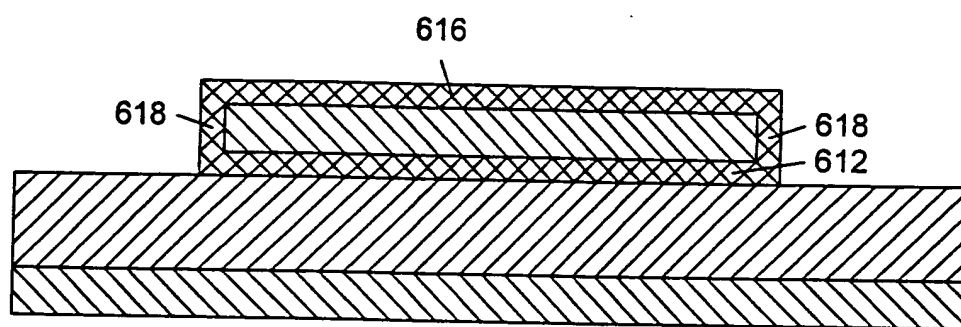


FIG. 22B

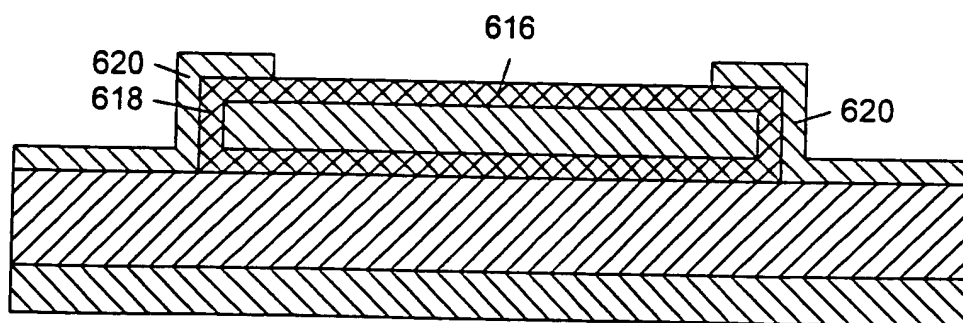


FIG. 22C

FIG. 22A

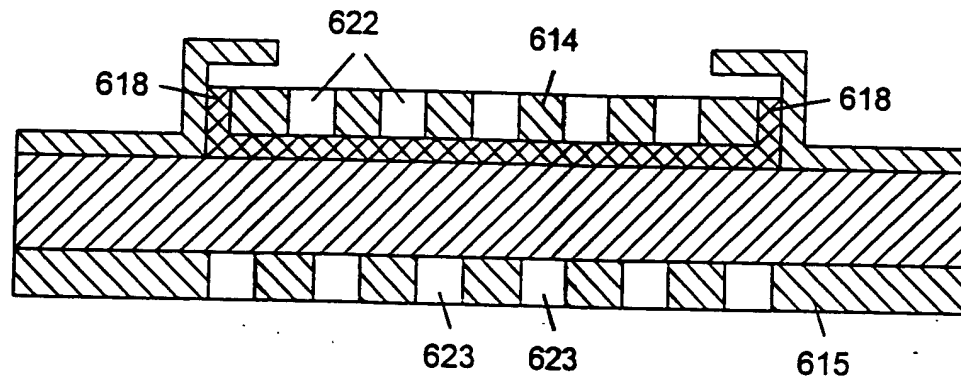


FIG. 22D

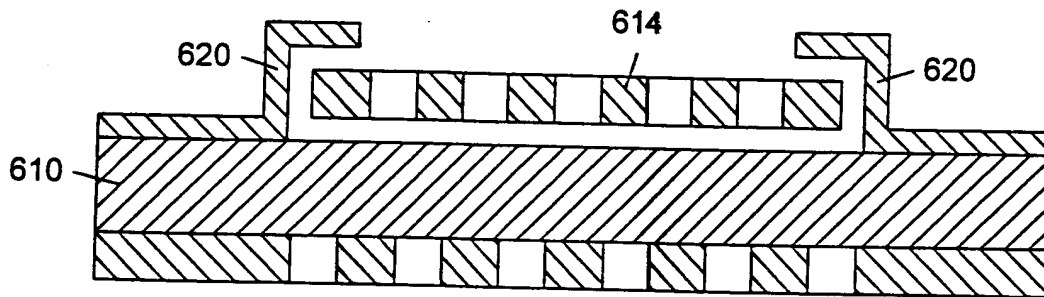


FIG. 22E

FIG. 22D

27/69

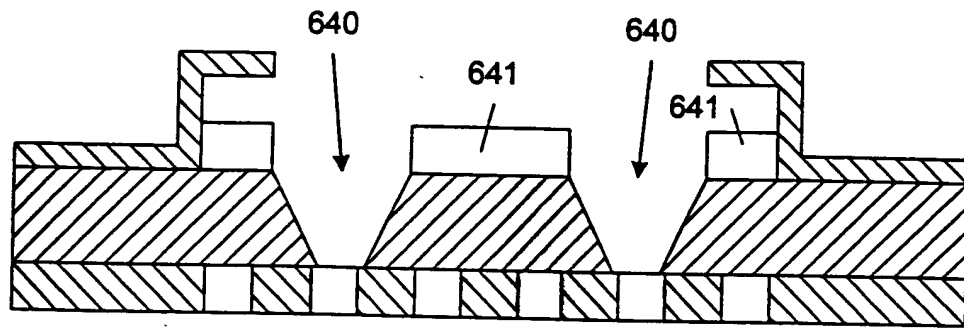


FIG. 22F

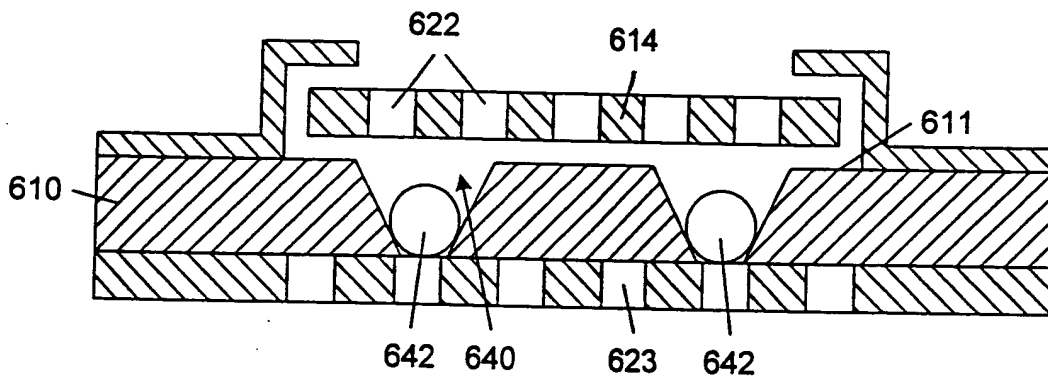


FIG. 22G

TOP SECRET

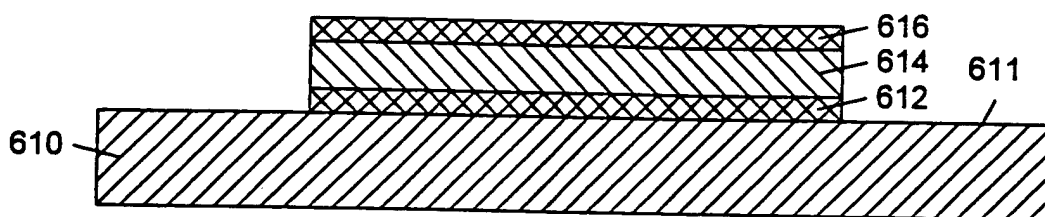


FIG. 23A

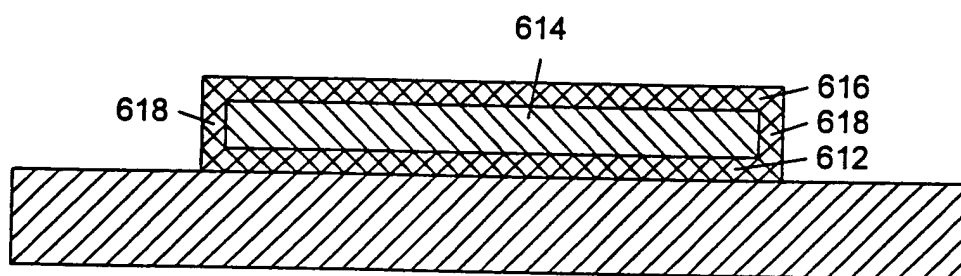


FIG. 23B

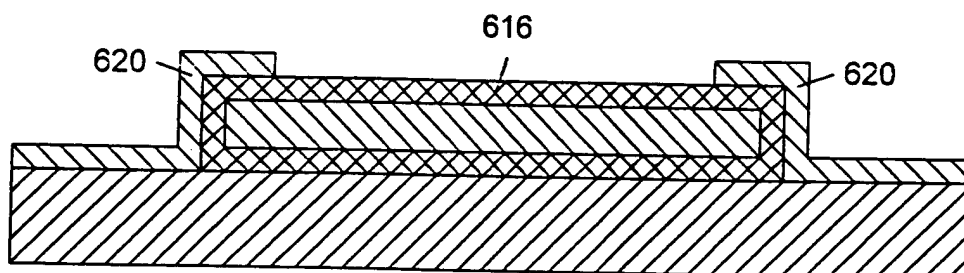


FIG. 23C

TOP OF PAGE 28/69

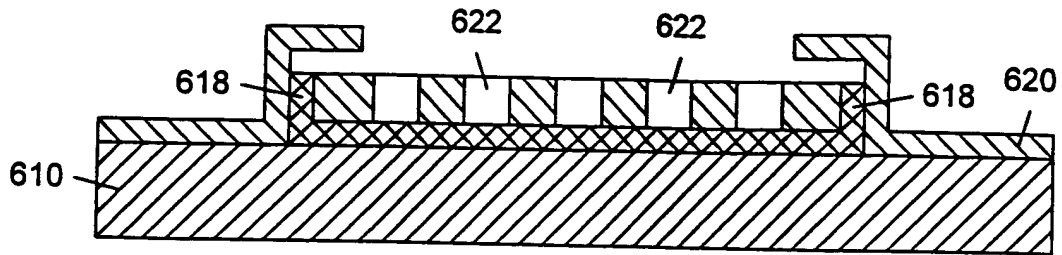


FIG. 23D

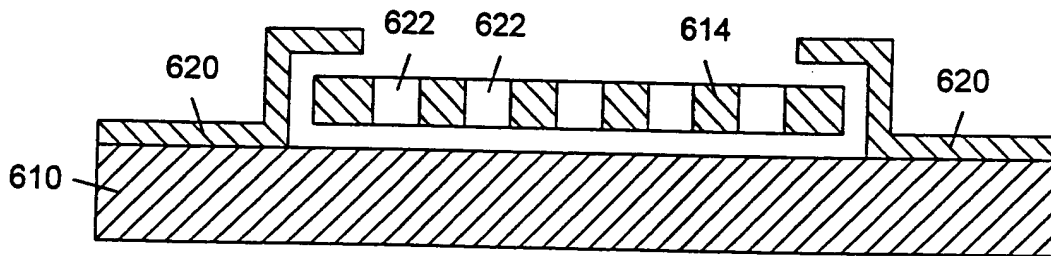


FIG. 23E

FIG. 23D

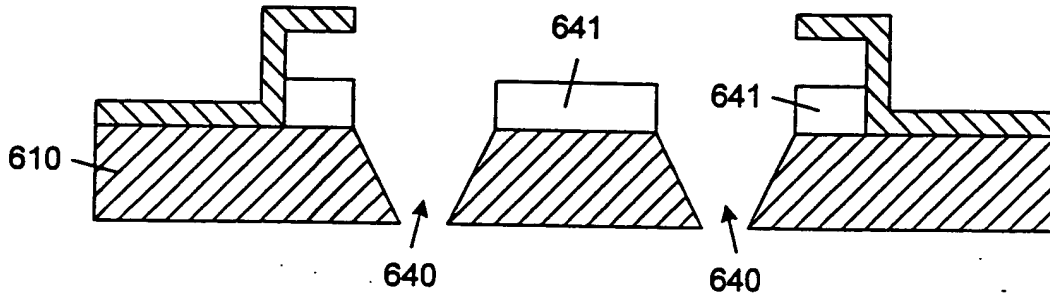


FIG. 23F

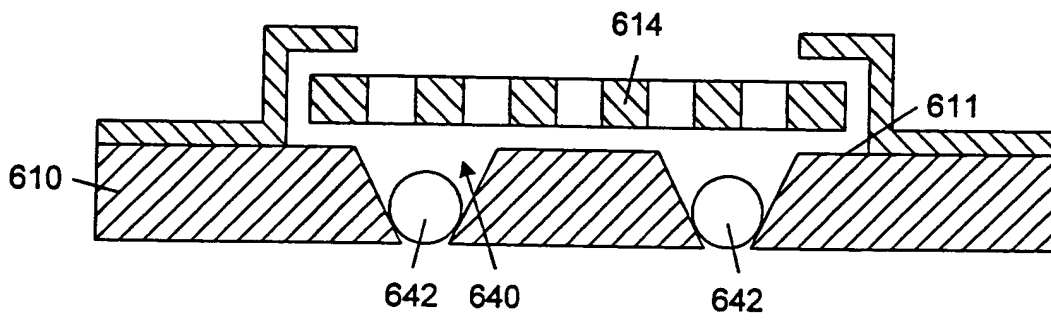


FIG. 23G

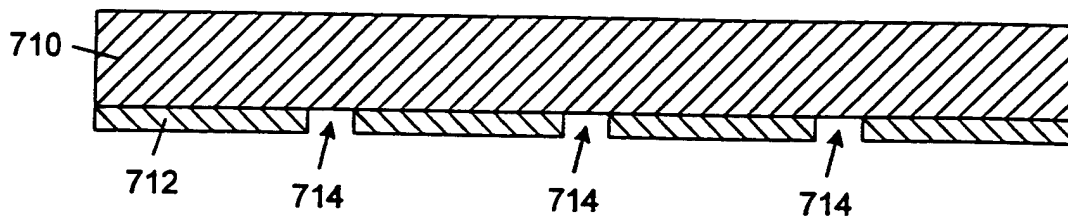


FIG. 24A

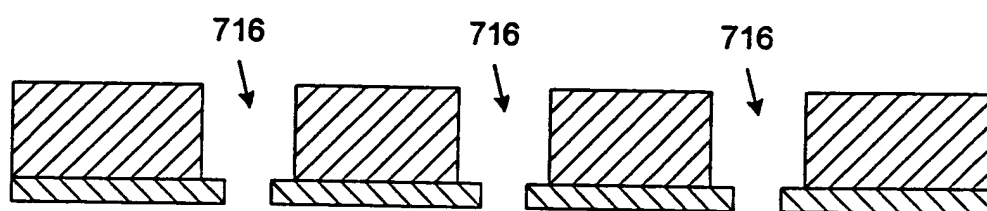


FIG. 24B

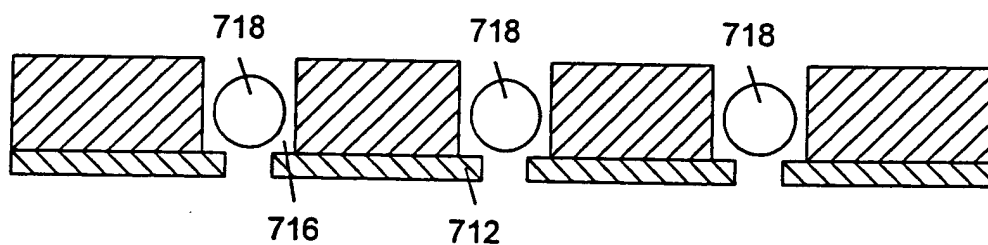


FIG. 24C

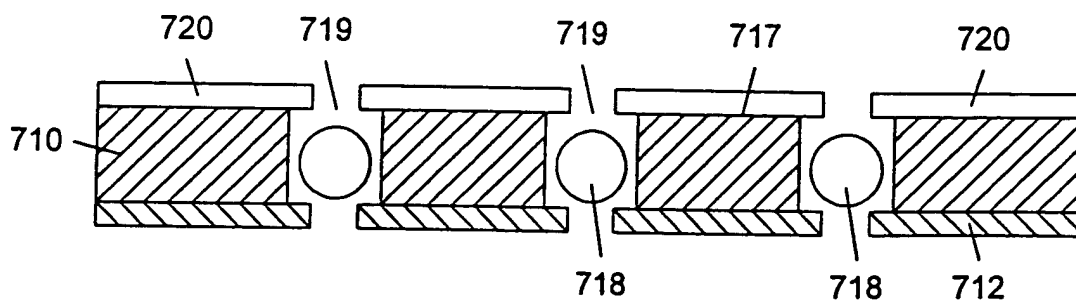


FIG. 24D

TOP OF PAGE 260

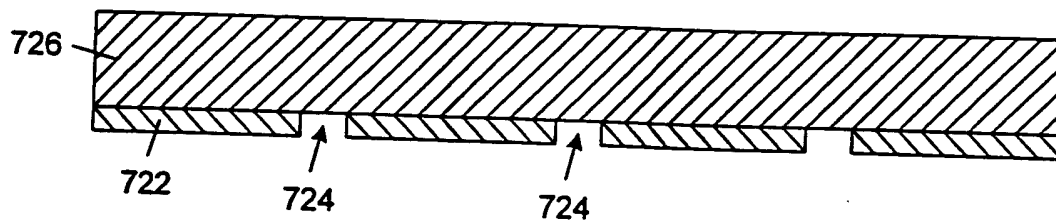


FIG. 25A

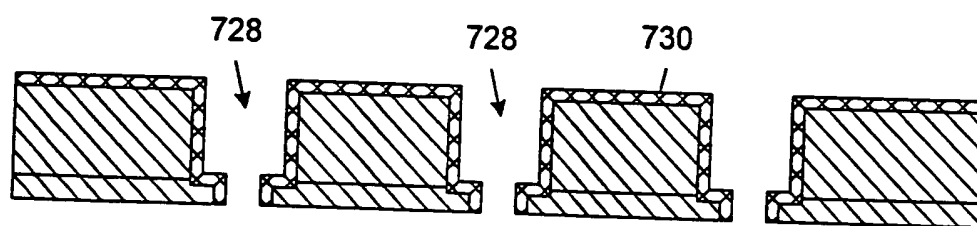


FIG. 25B

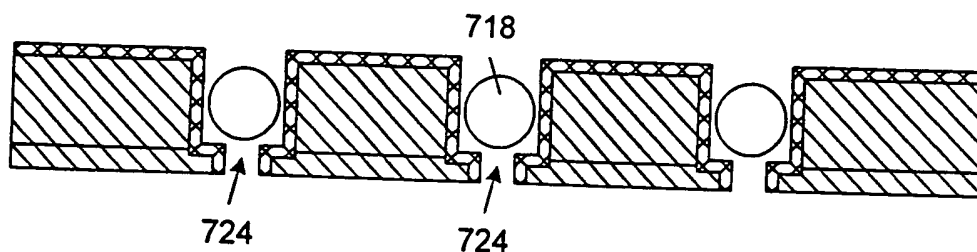


FIG. 25C

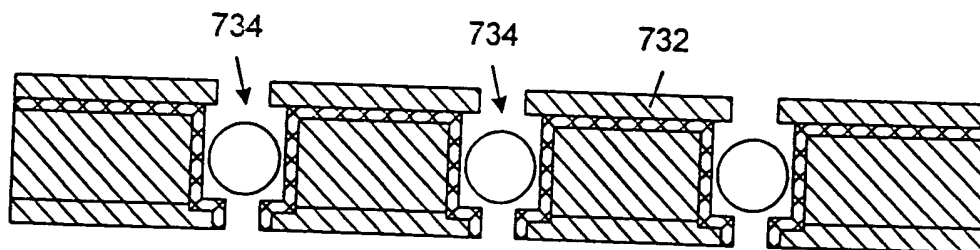


FIG. 25D

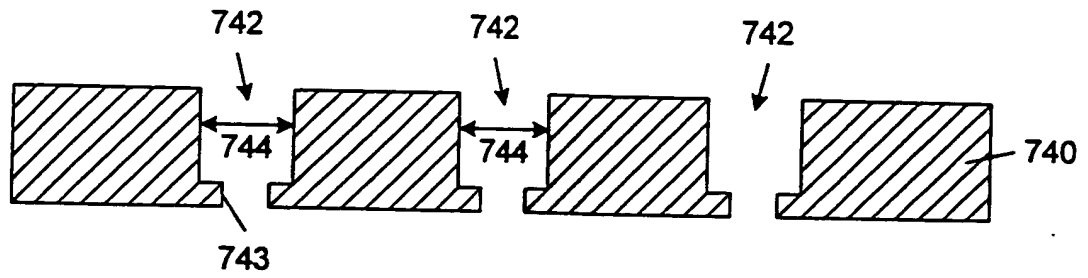


FIG. 26A

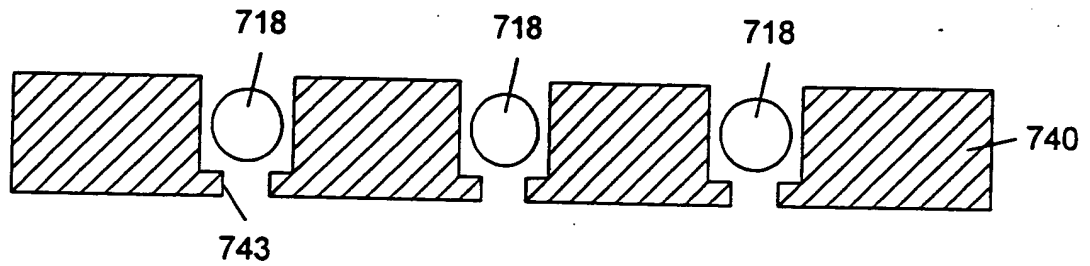


FIG. 26B

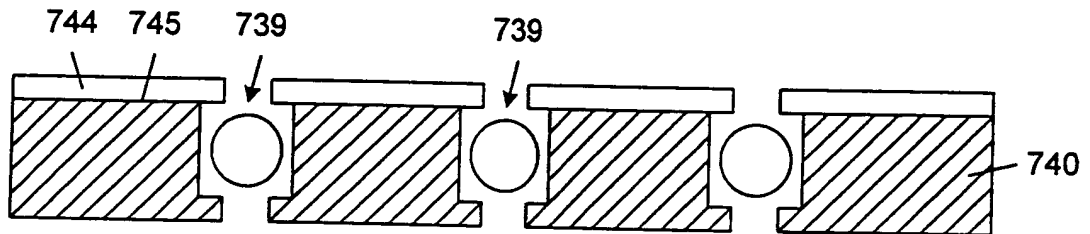


FIG. 26C

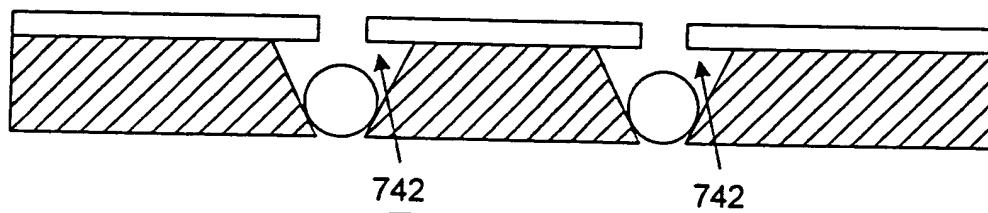


FIG. 26D

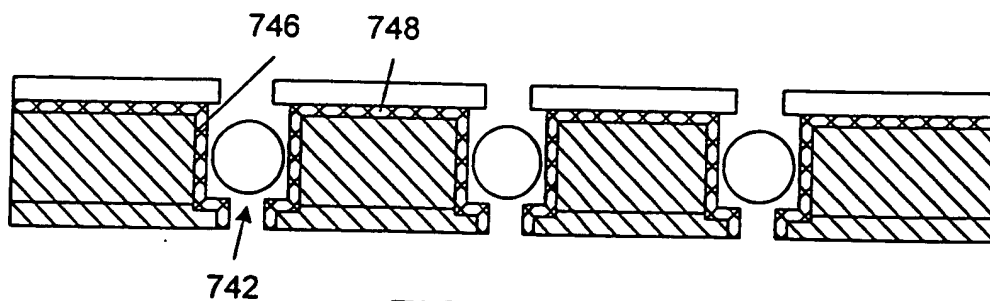


FIG. 26E

TOP OF PAGE 460

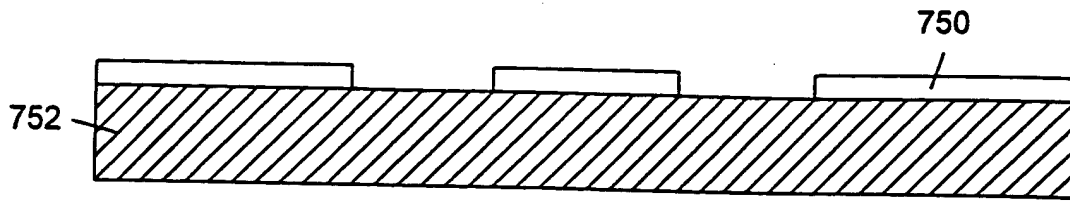


FIG. 27A

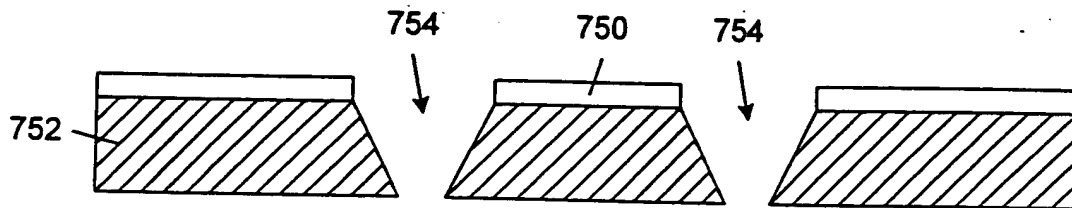


FIG. 27B

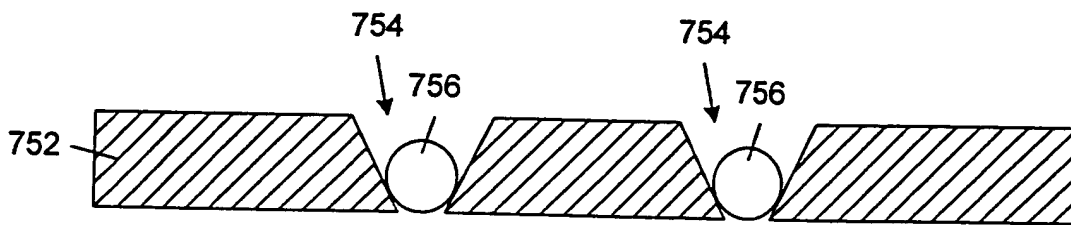


FIG. 27C

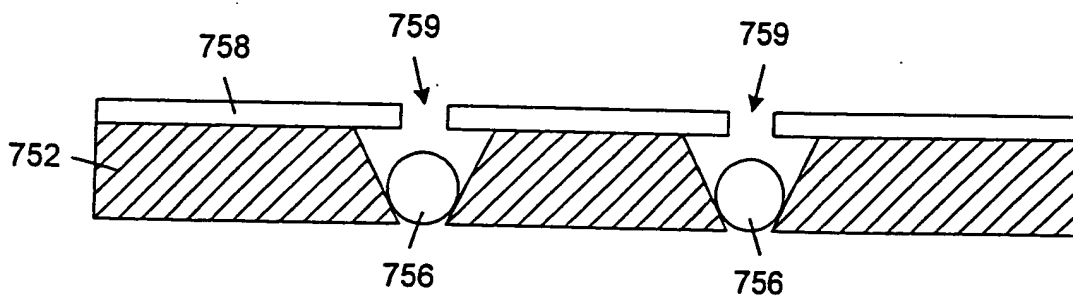


FIG. 27D

FIG. 27A

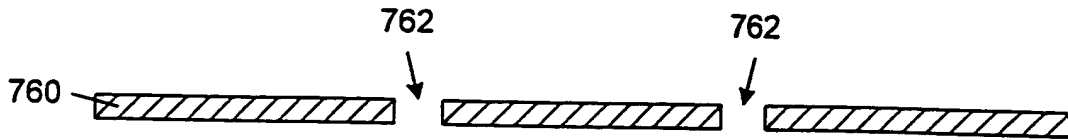


FIG. 28A

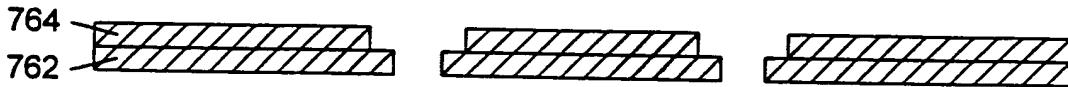


FIG. 28B

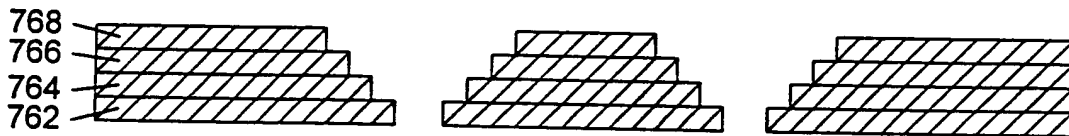


FIG. 28C

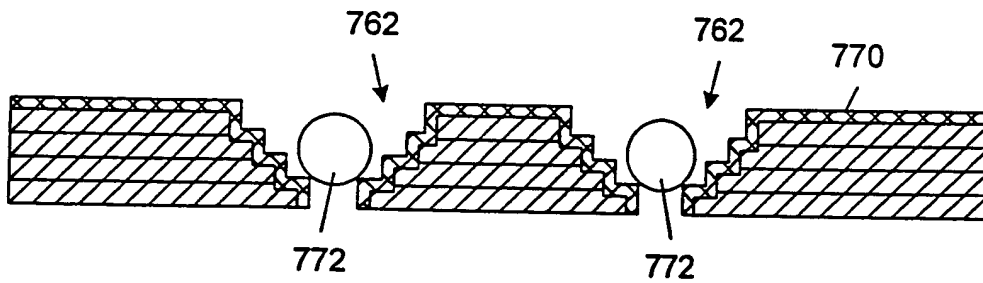


FIG. 28D

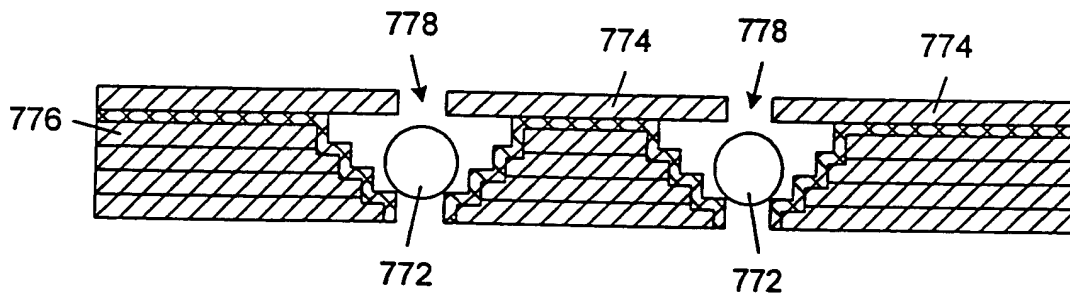


FIG. 28E

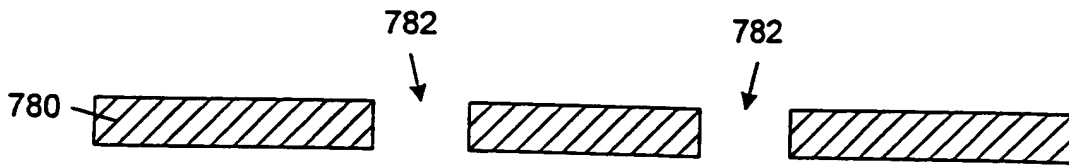


FIG. 29A

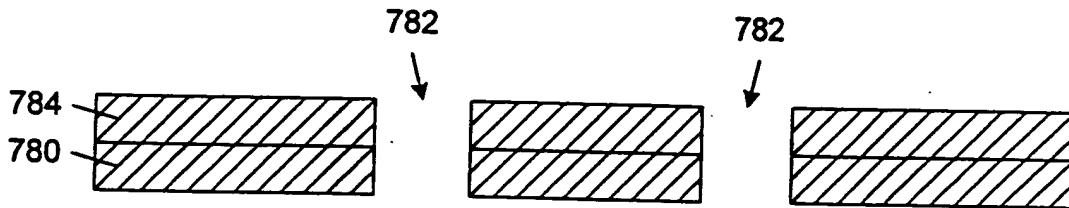


FIG. 29B

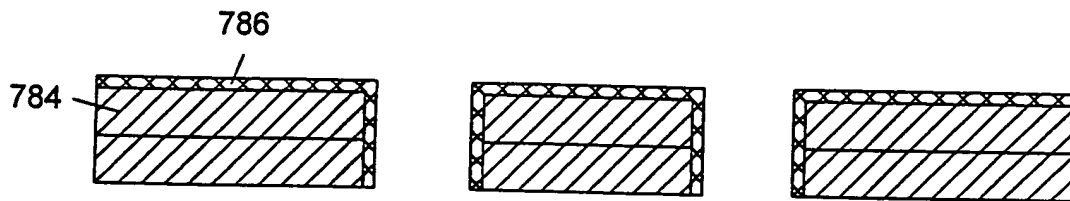


FIG. 29C

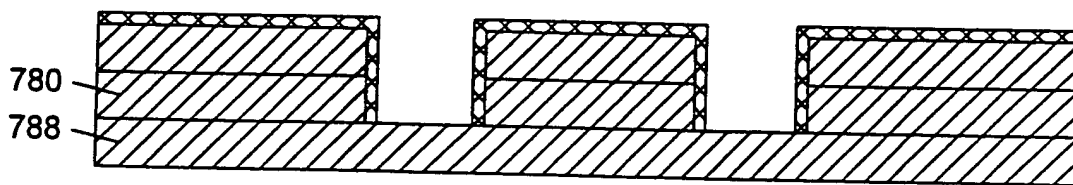


FIG. 29D

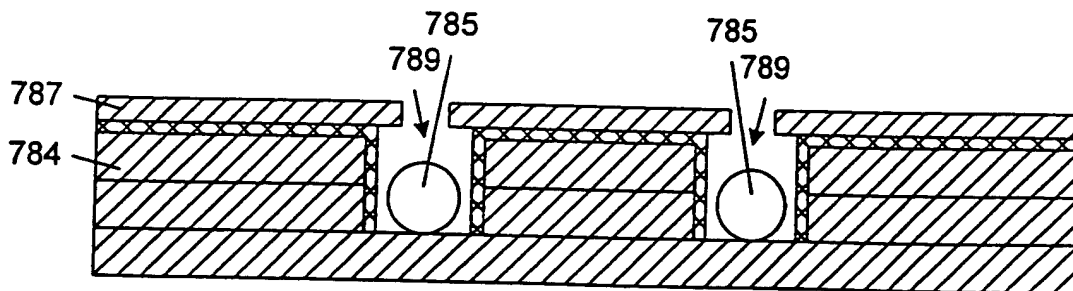


FIG. 29E

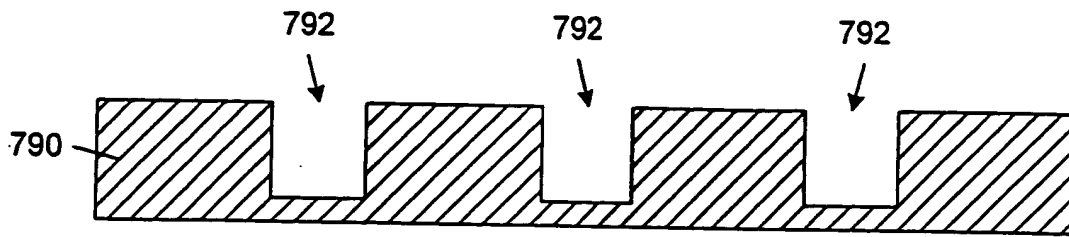


FIG. 30A

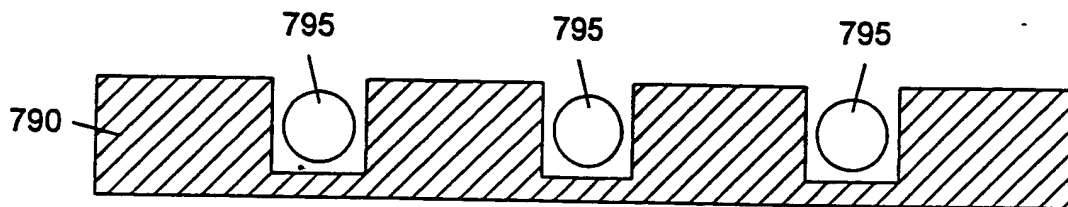


FIG. 30B

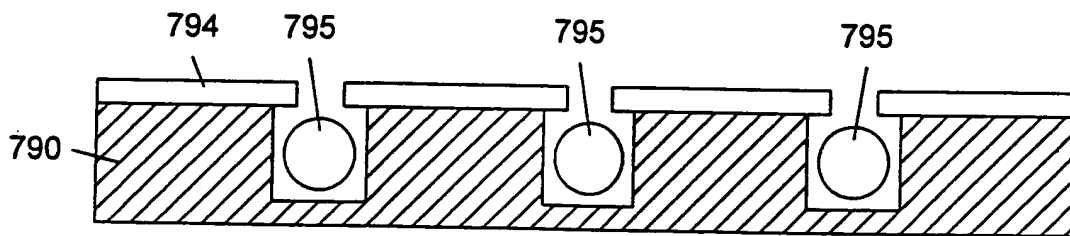


FIG. 30C

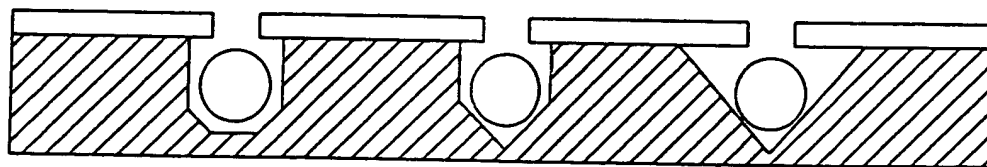


FIG. 30D

FIG. 30A

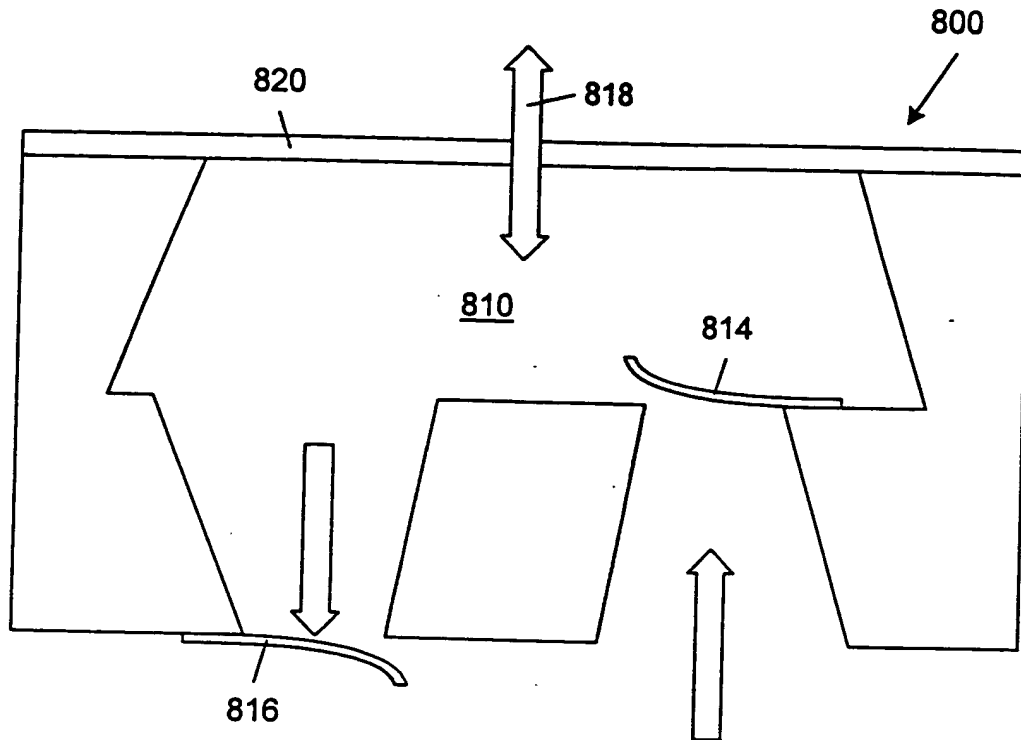


FIG. 31

FIG. 31

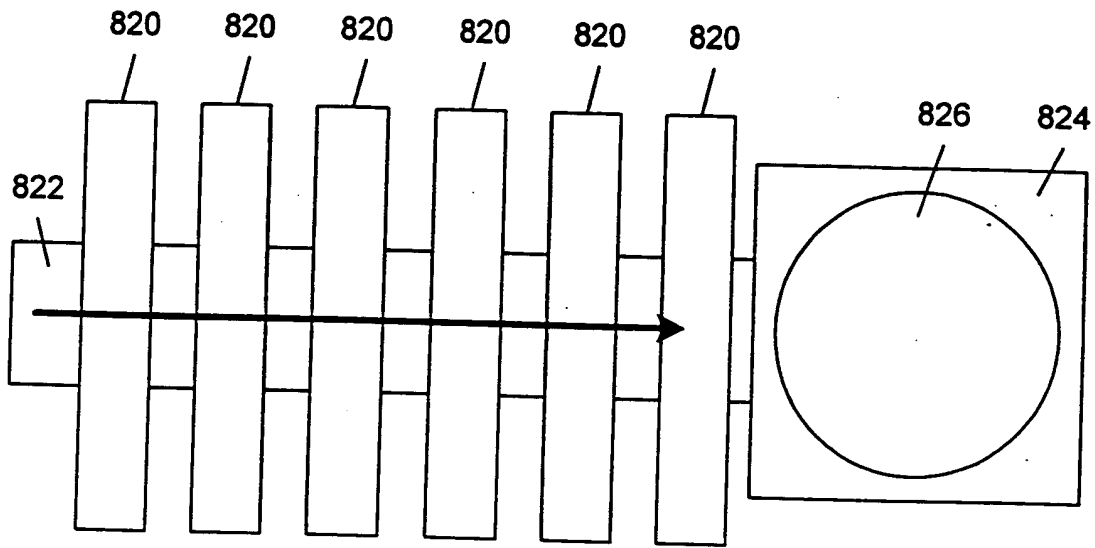


FIG. 32

FOR THE "OFFICE"

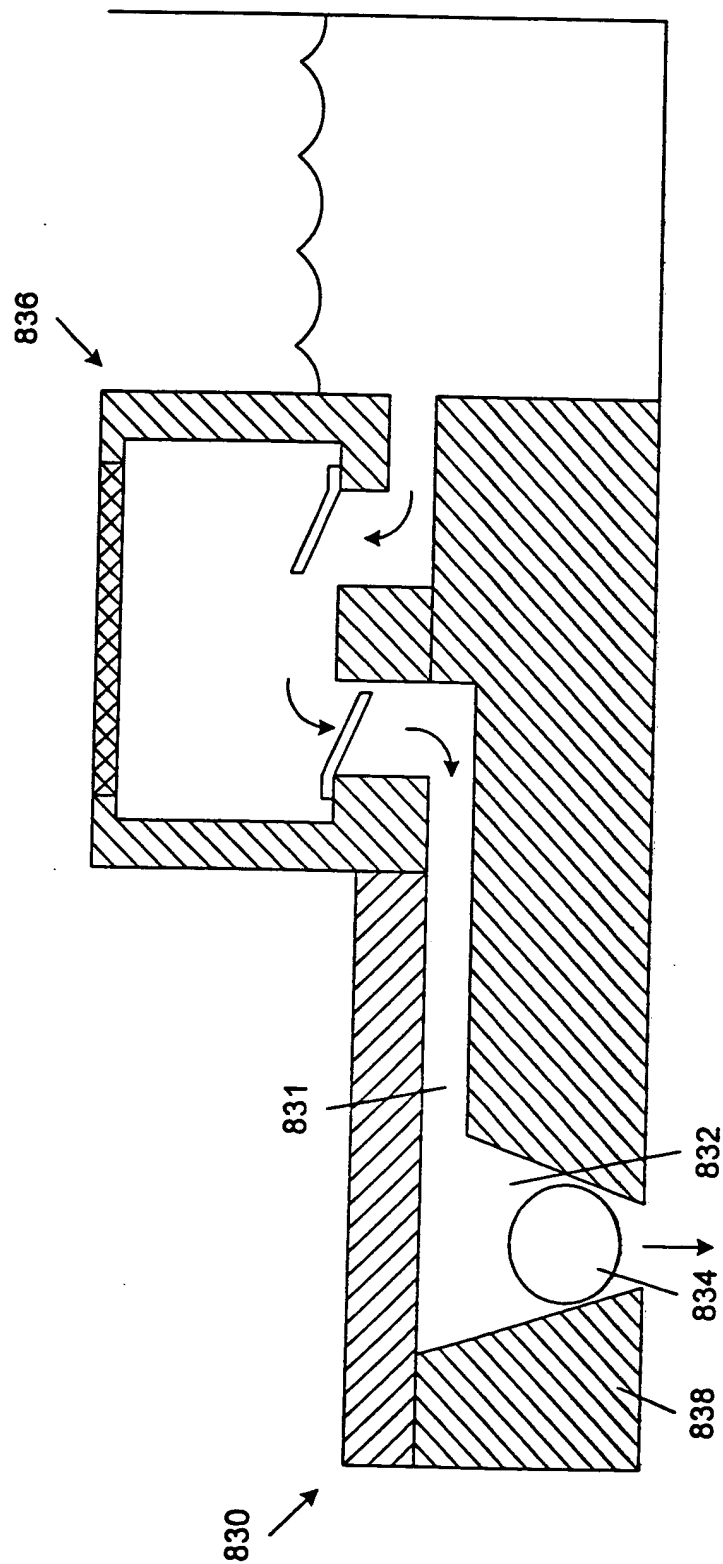


FIG. 33

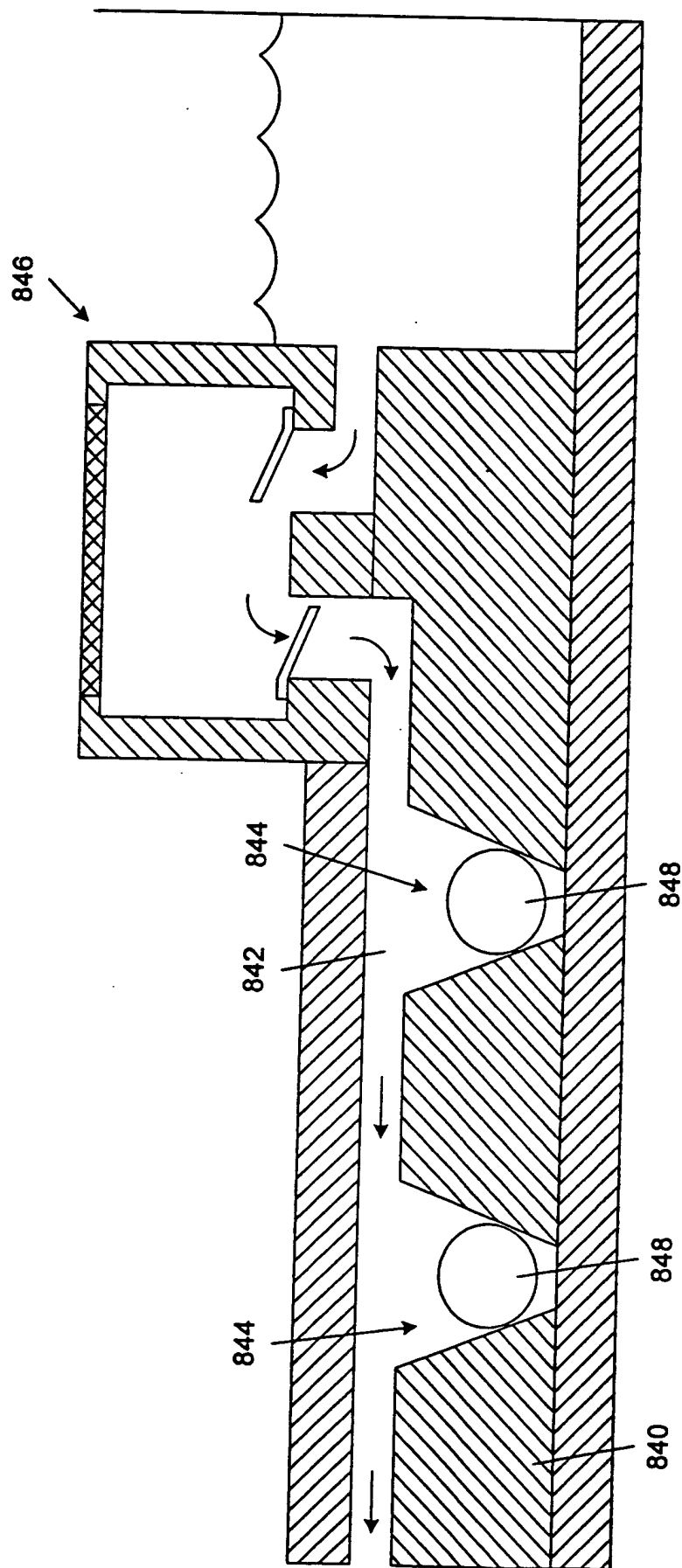


FIG. 34

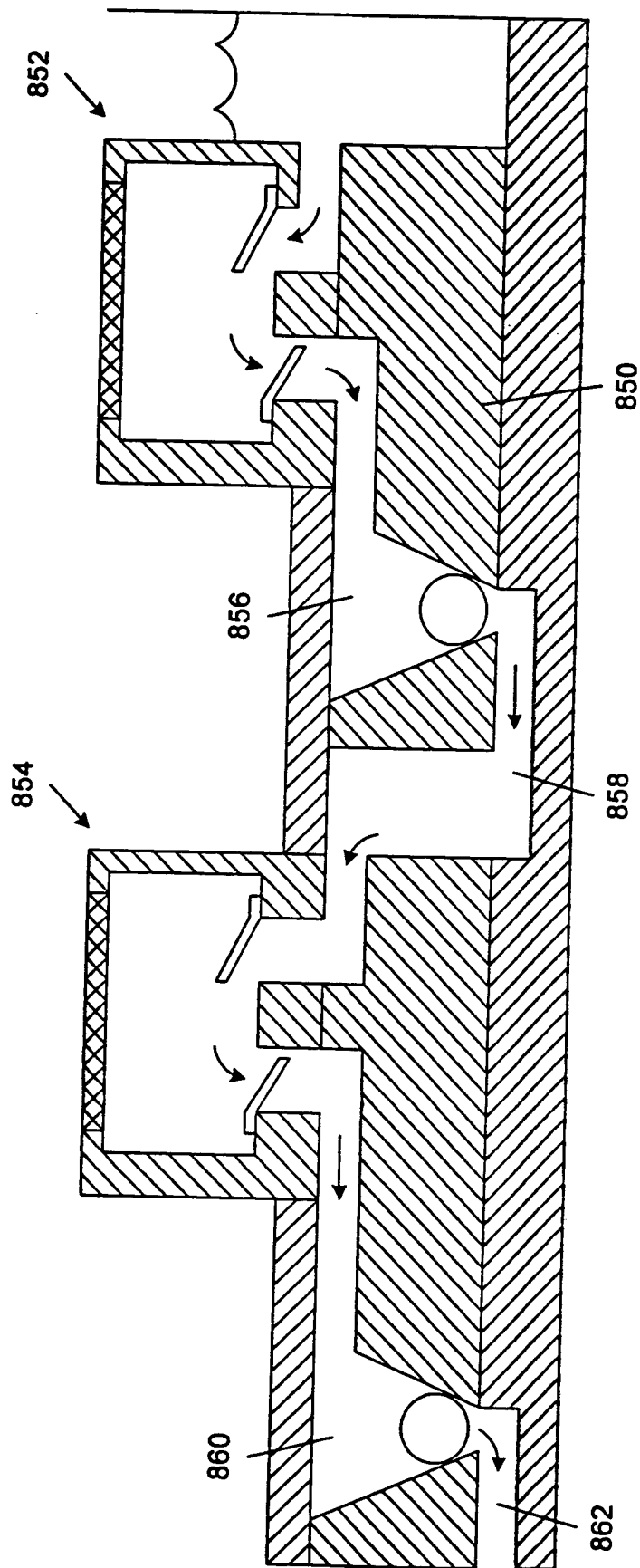


FIG. 35

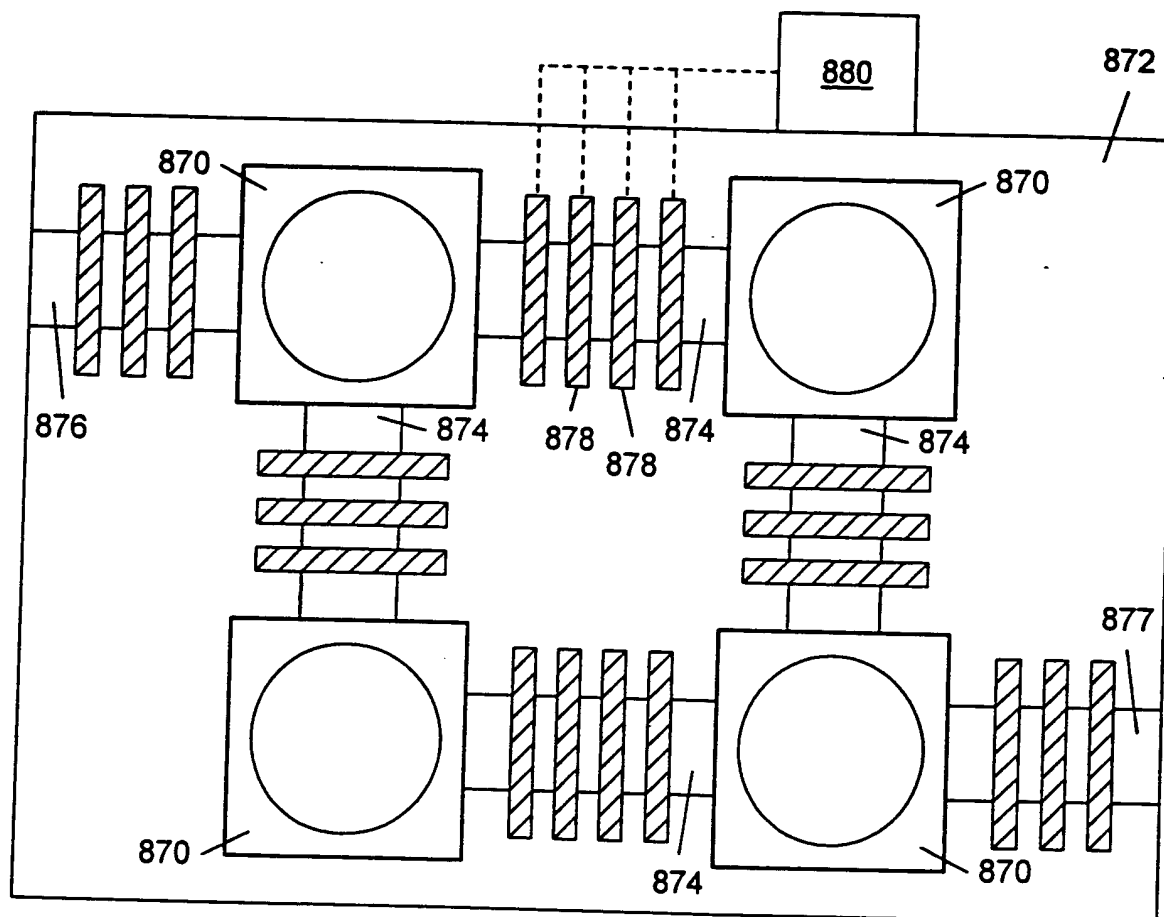


FIG. 36

FIG. 37

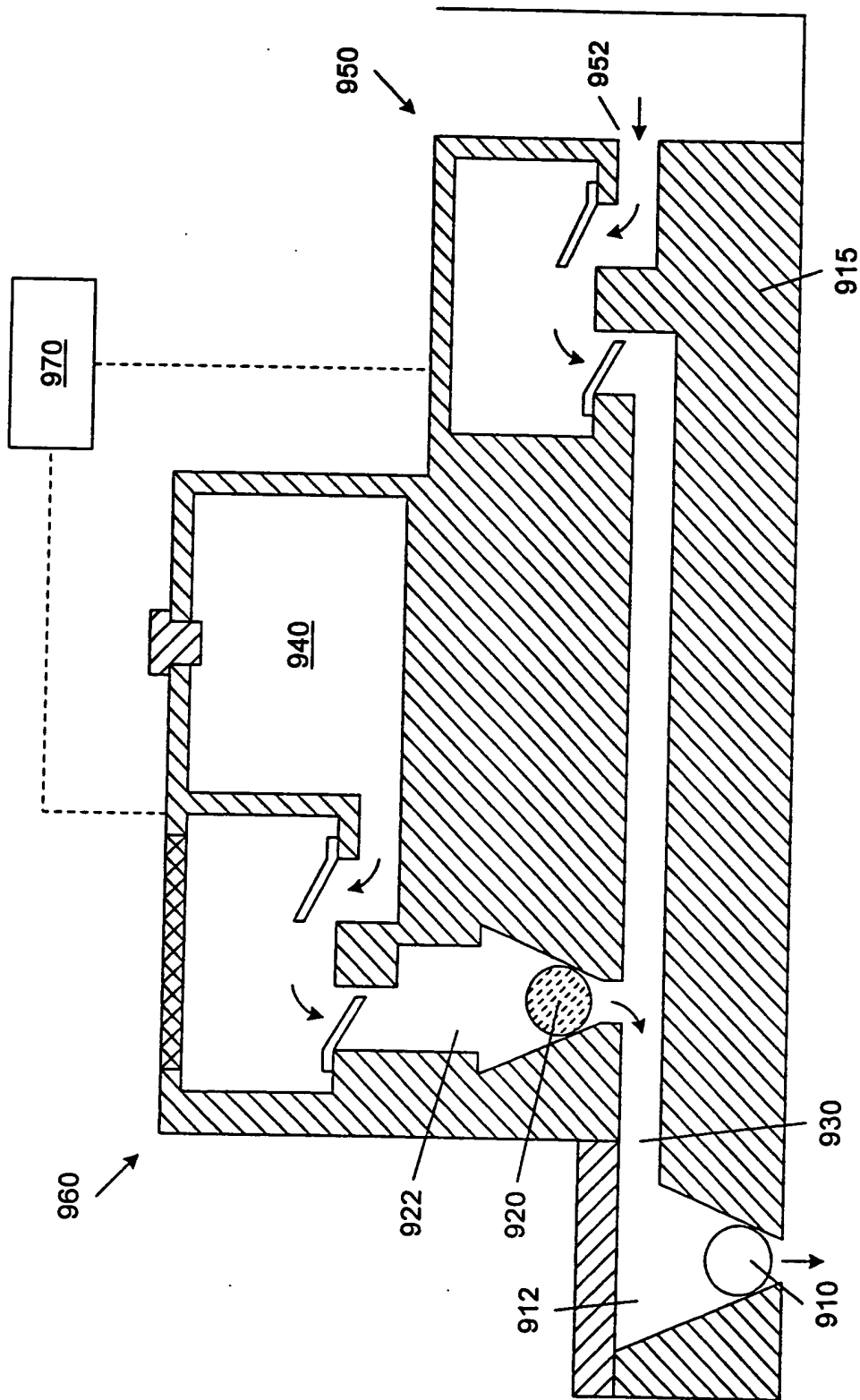


FIG. 37

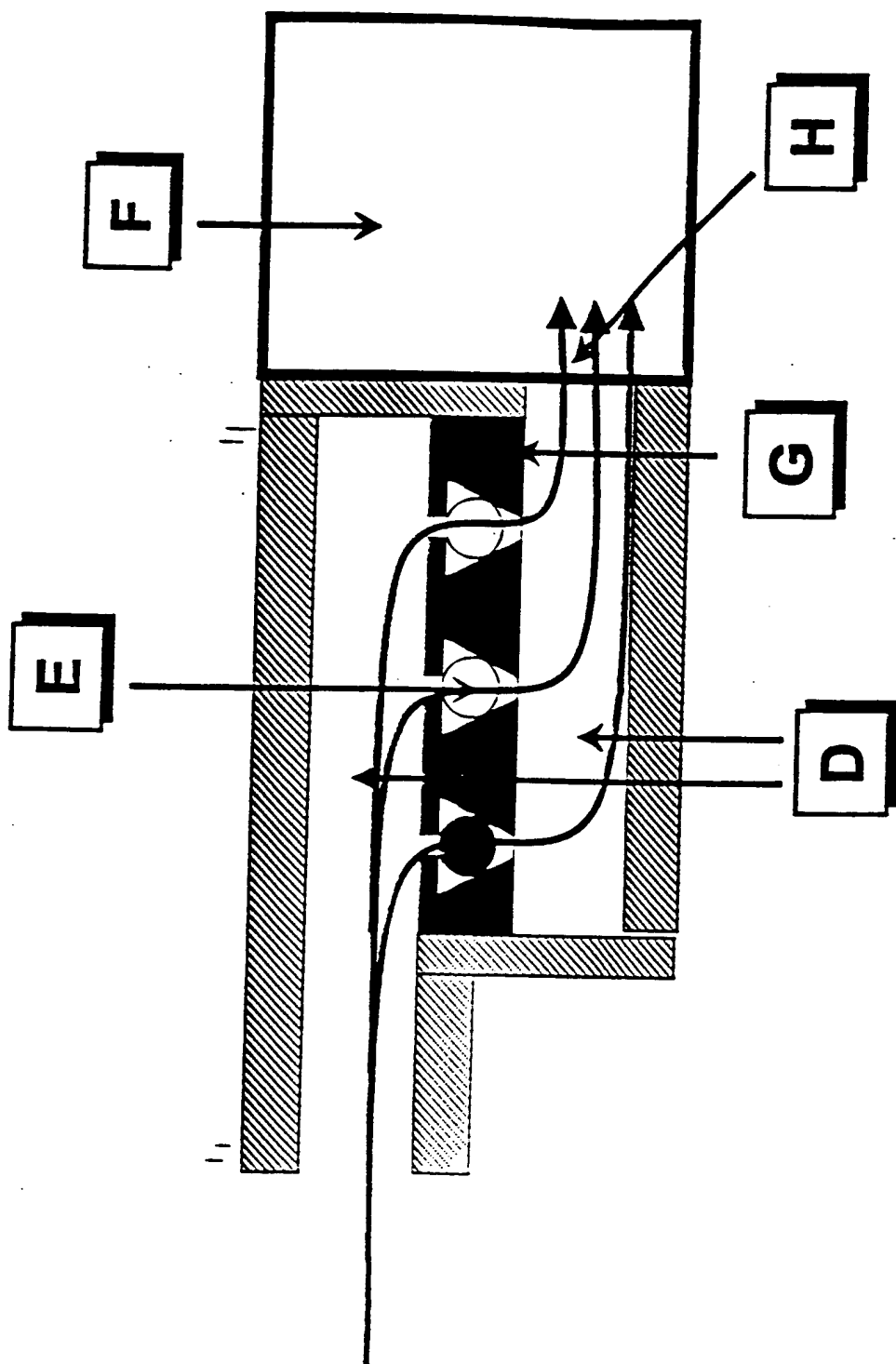


Figure 38

TOP SECRET

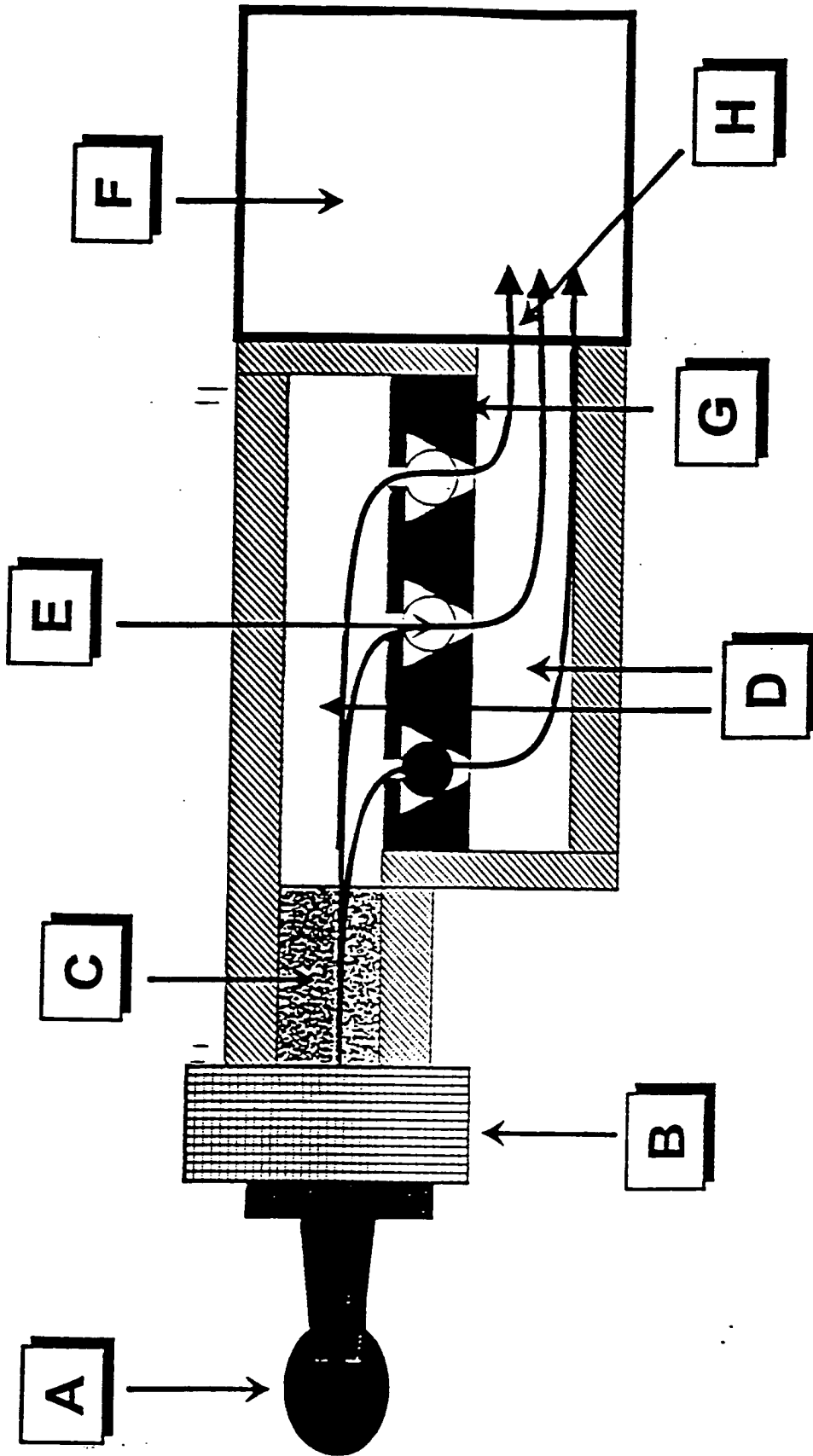


Figure 39

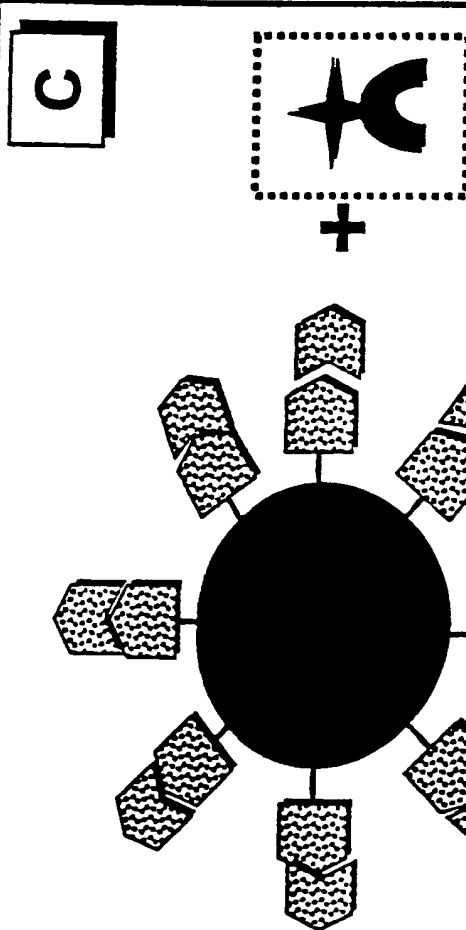
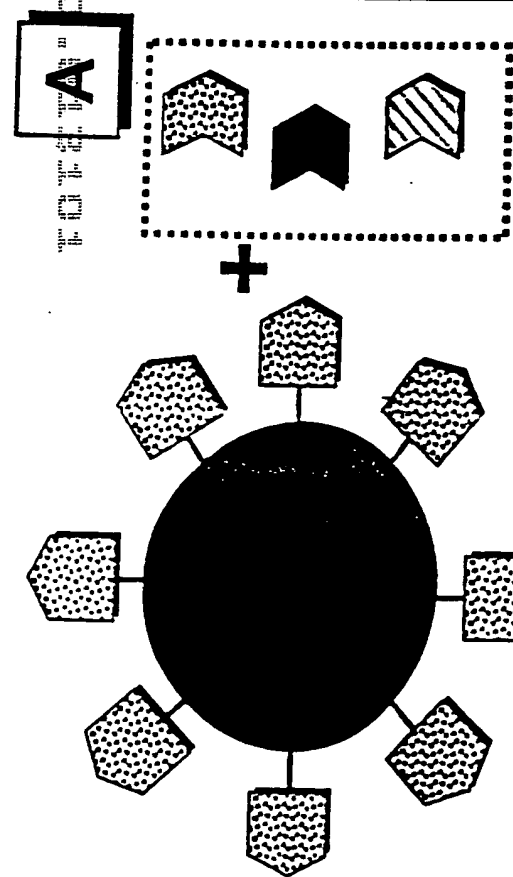
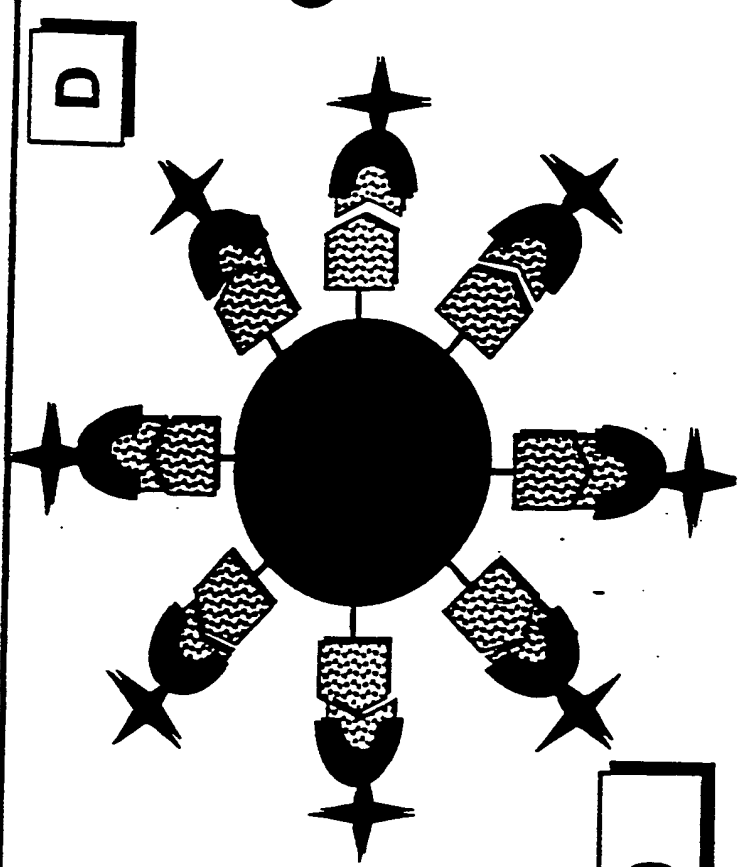
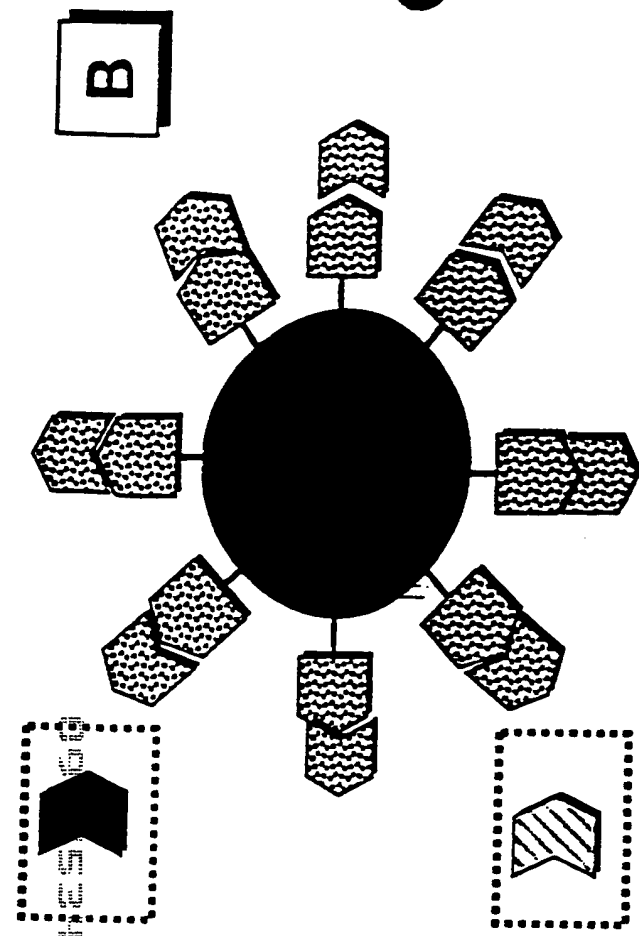


FIG. 40

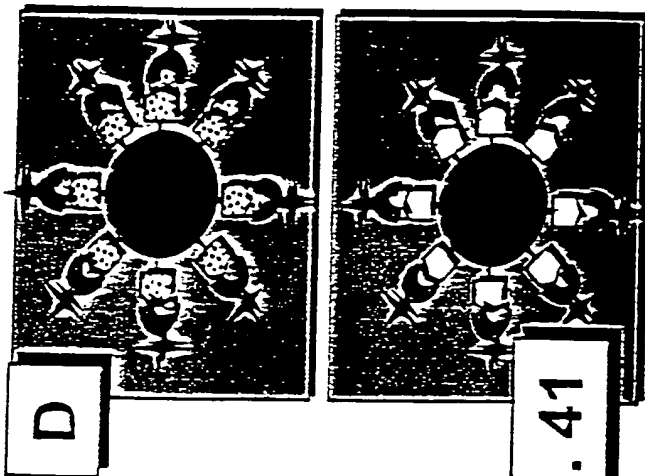
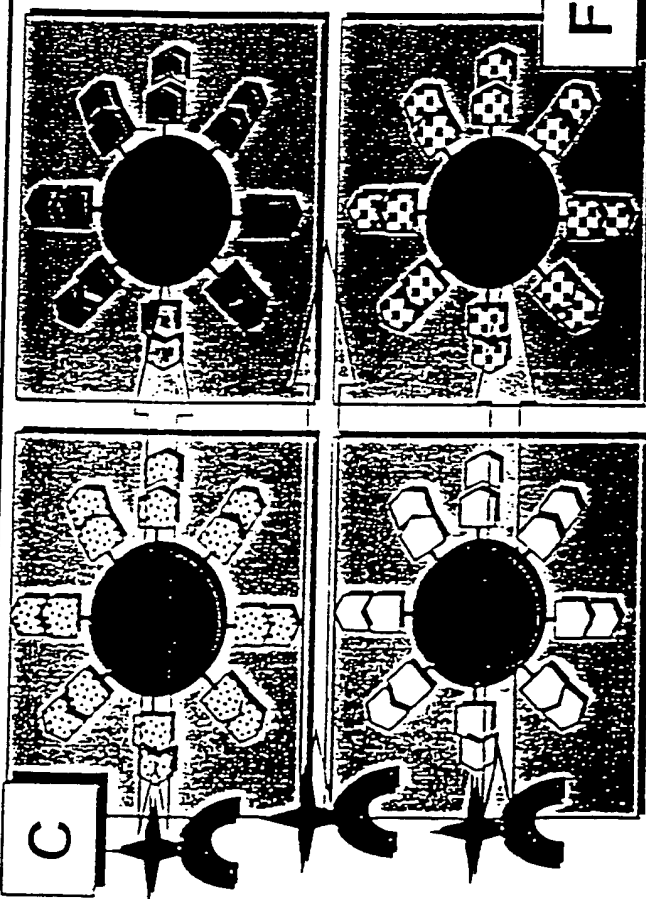
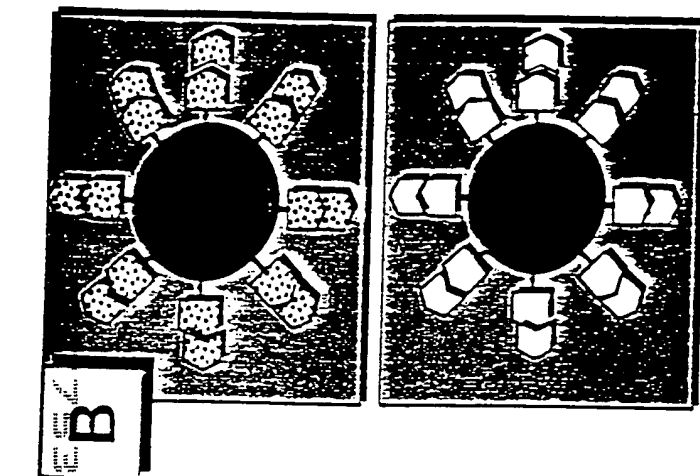
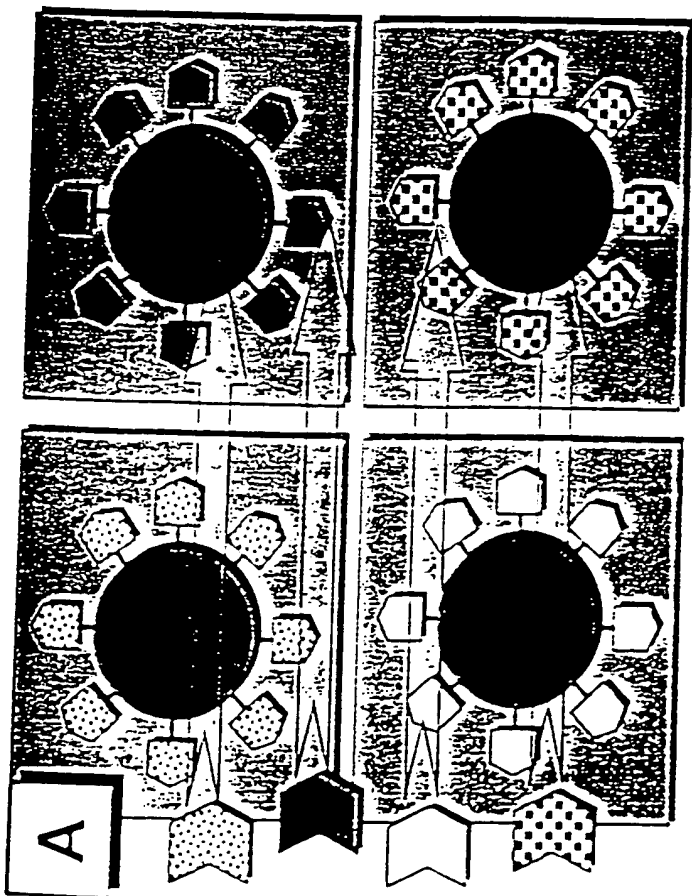


FIG. 41

Electronic Tongue Biological Sample Acquisition

Prototype 6/2/99

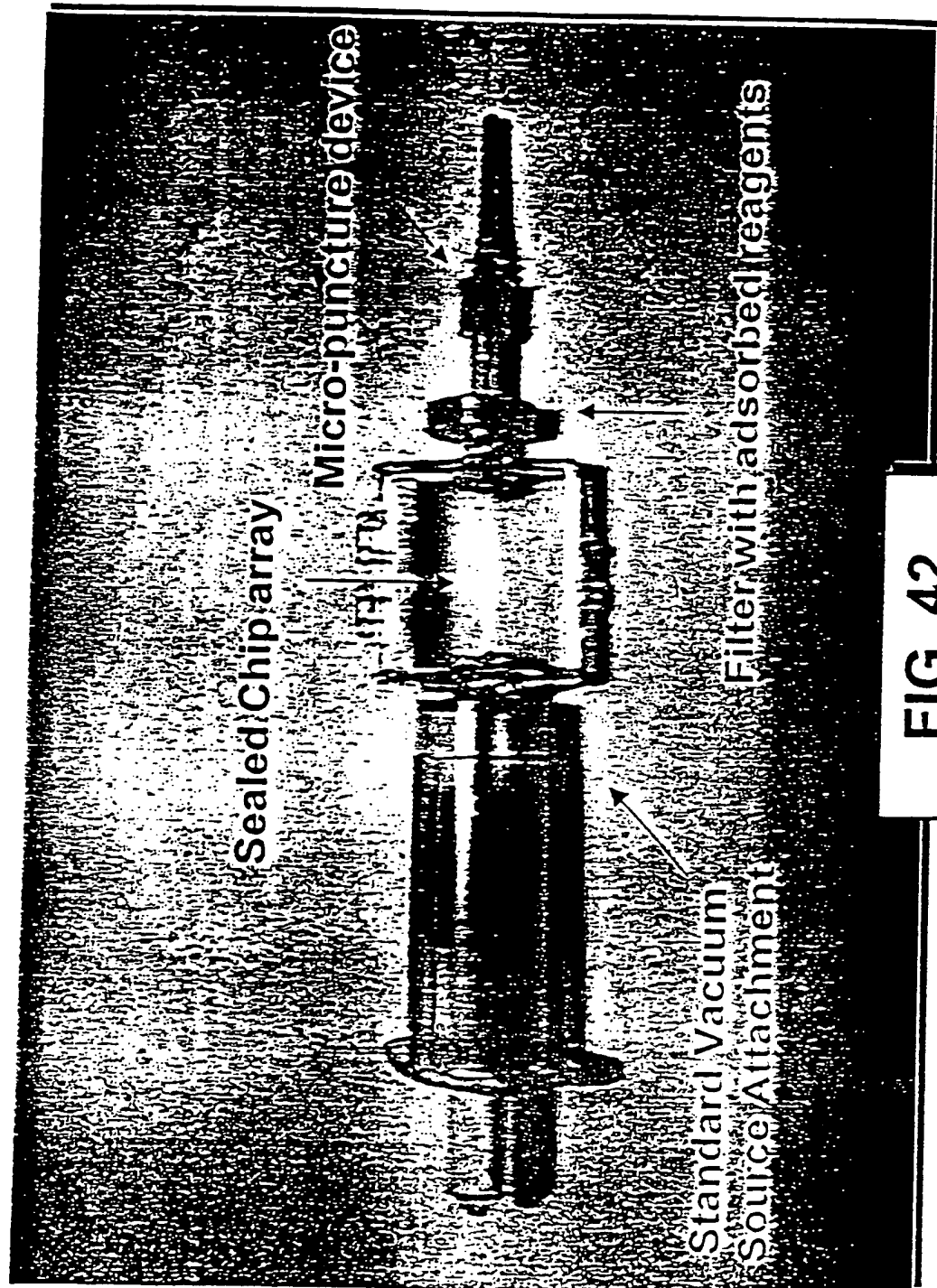


FIG. 42

FIG. 43

Forward Flow Direction

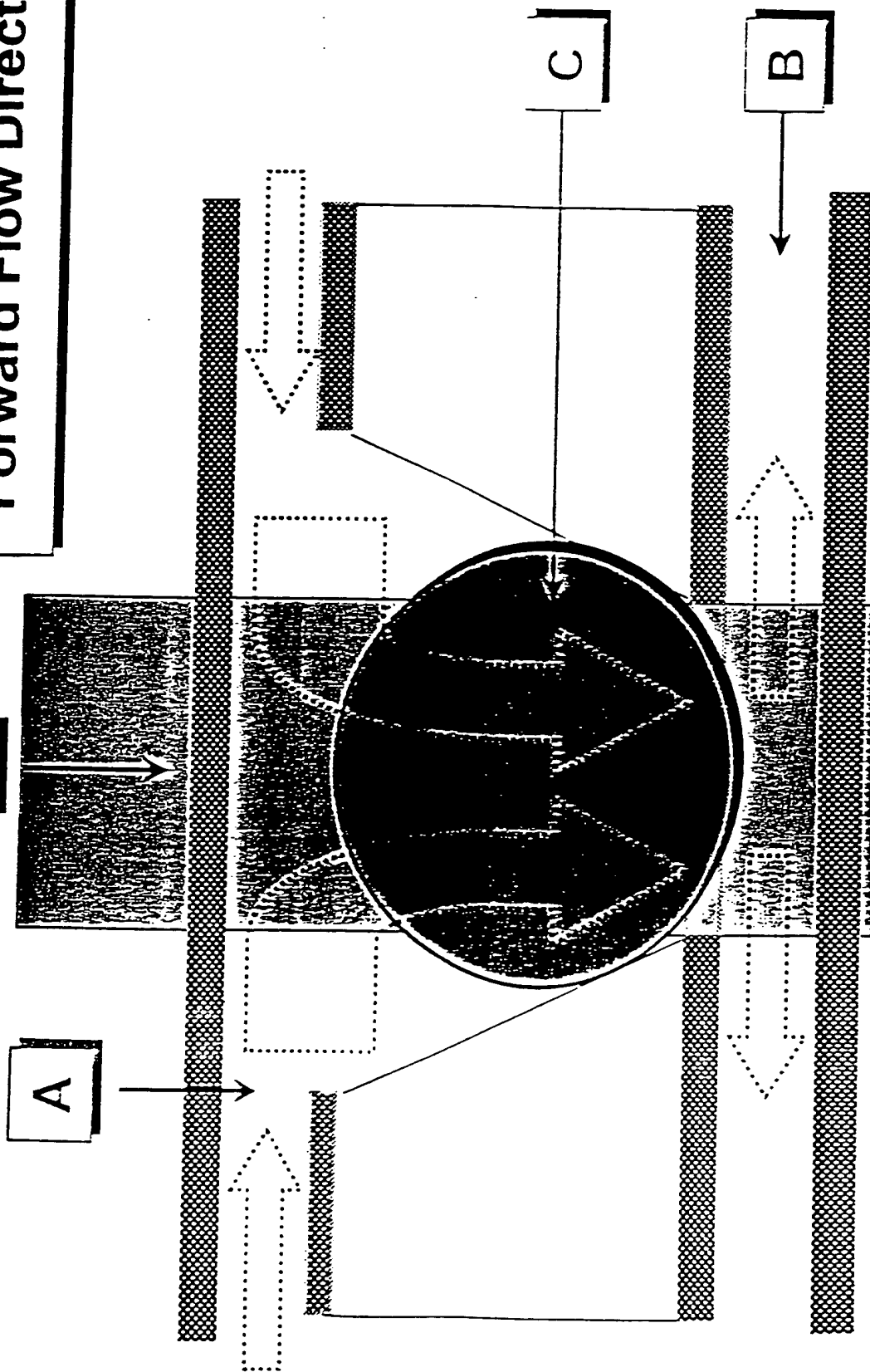


FIG. 43

Reverse Flow Direction

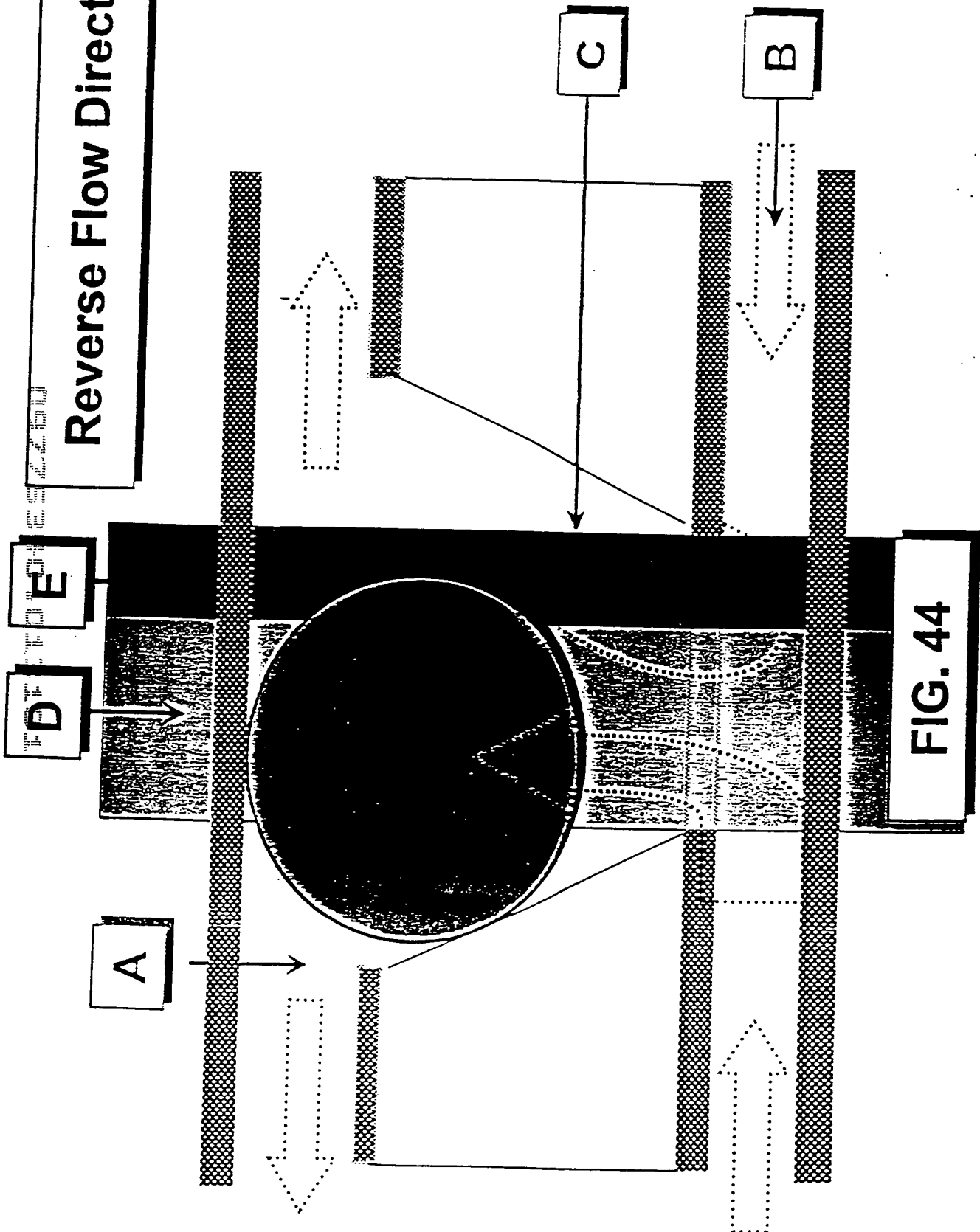


FIG. 44

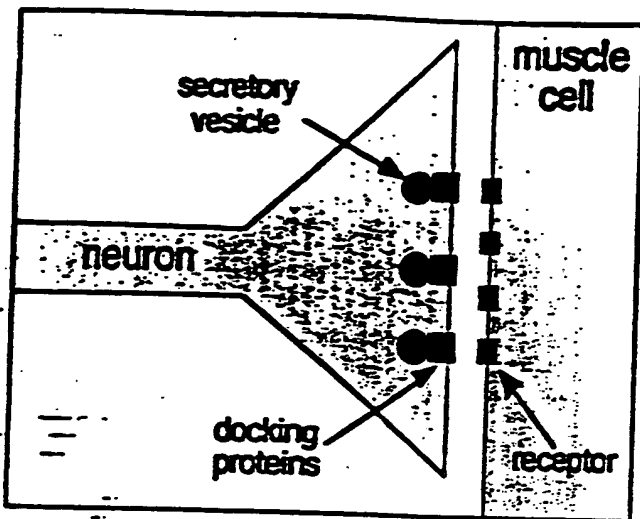


Fig. 45-A

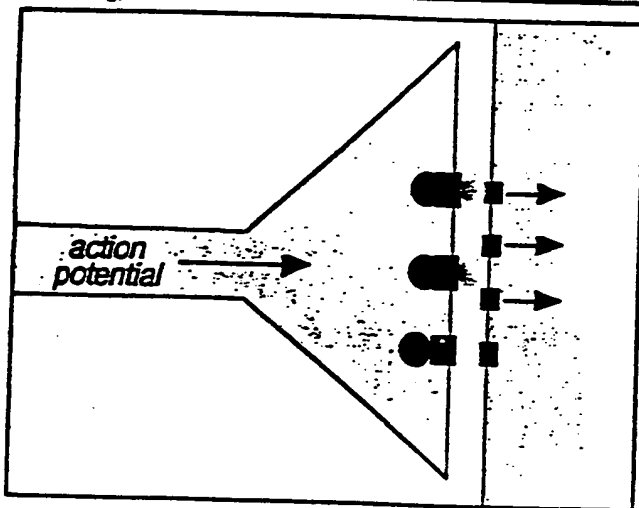


Fig. 45-B

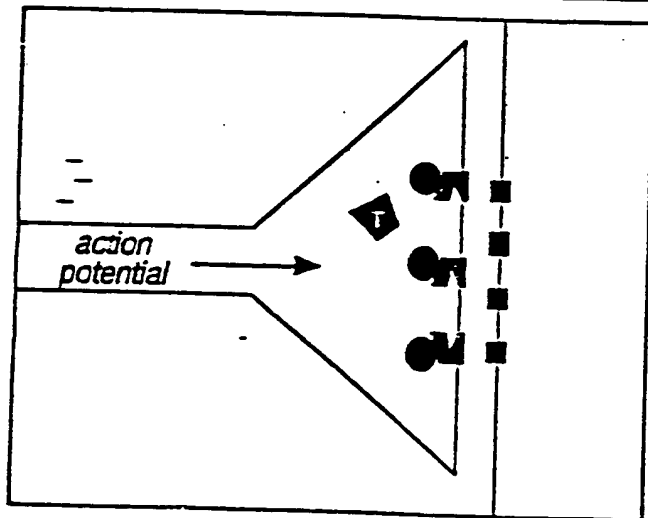


Fig. 45-C

TOP SECRET

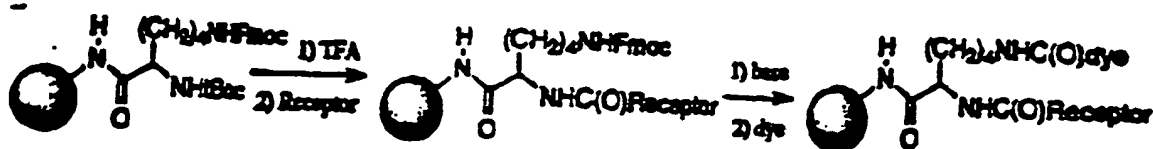


FIG. 45 D

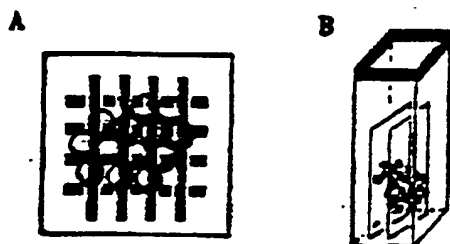


FIG. 46

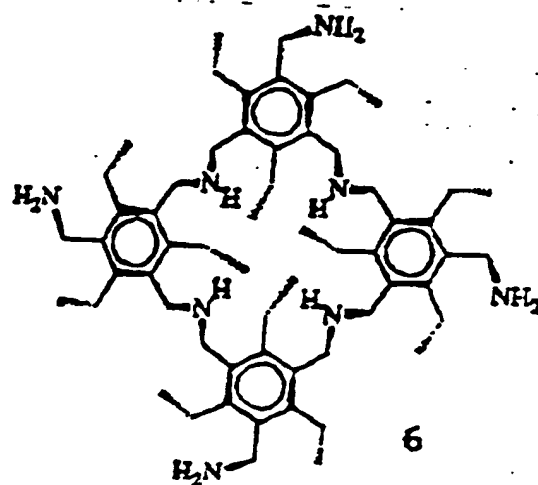
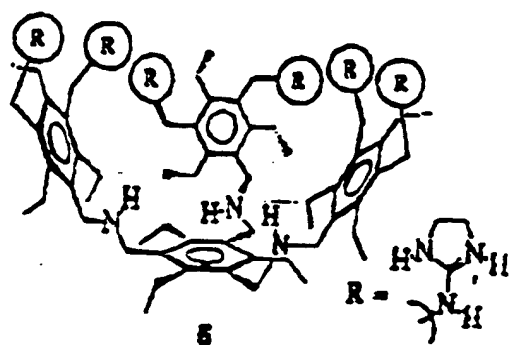
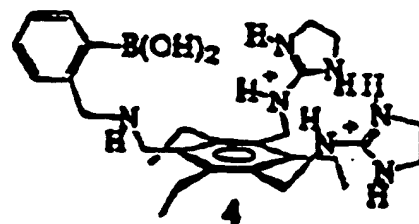
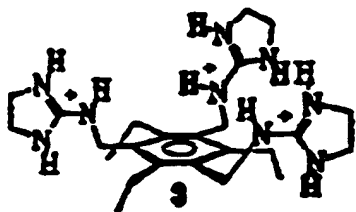


FIG. 47

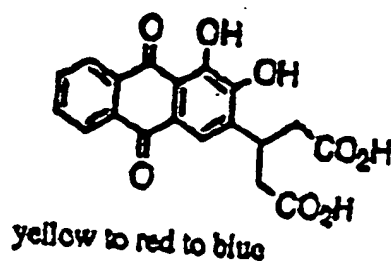
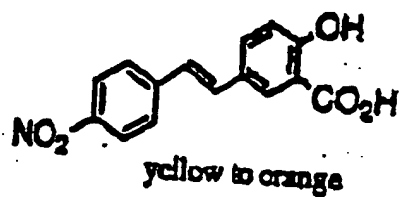
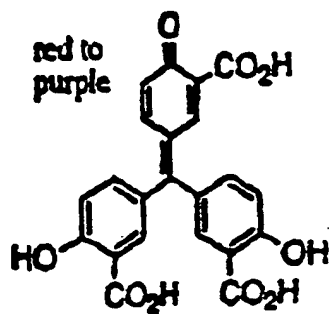
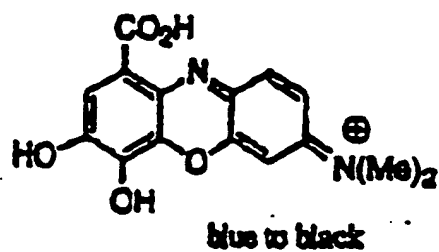
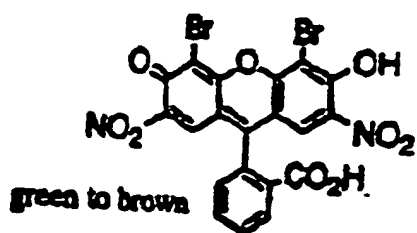


Fig. 48

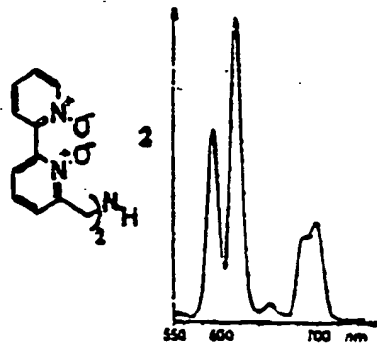
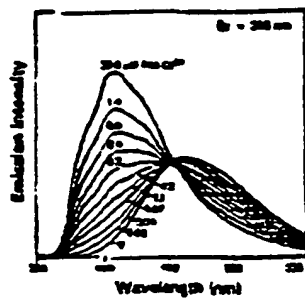
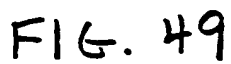


FIG. 50

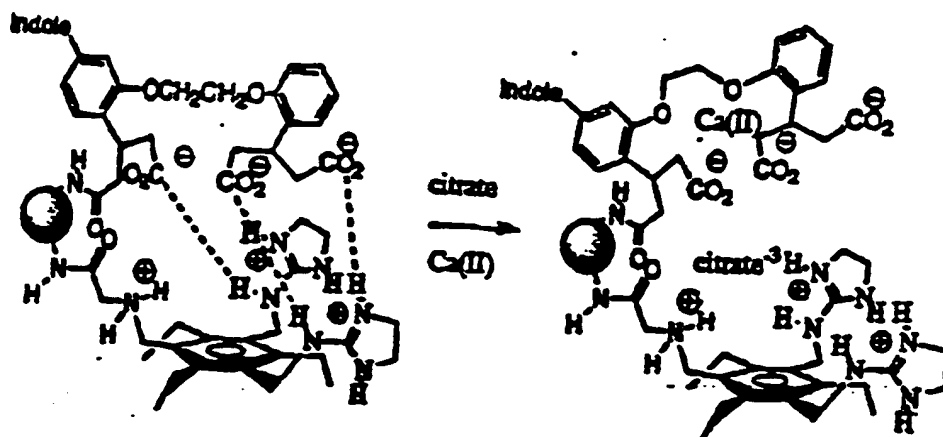


FIG. 51

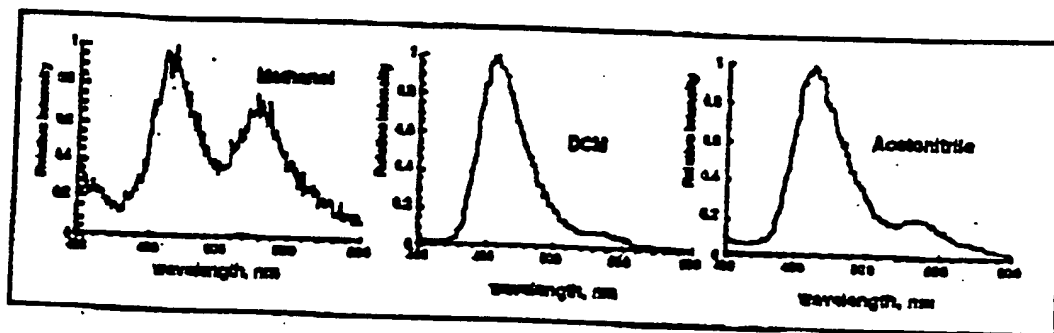


FIG. 52

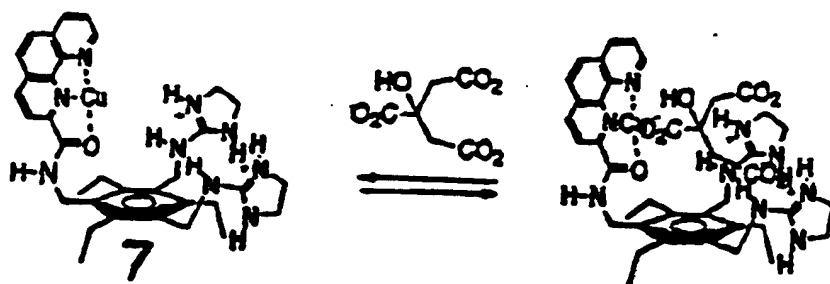


FIG. 53

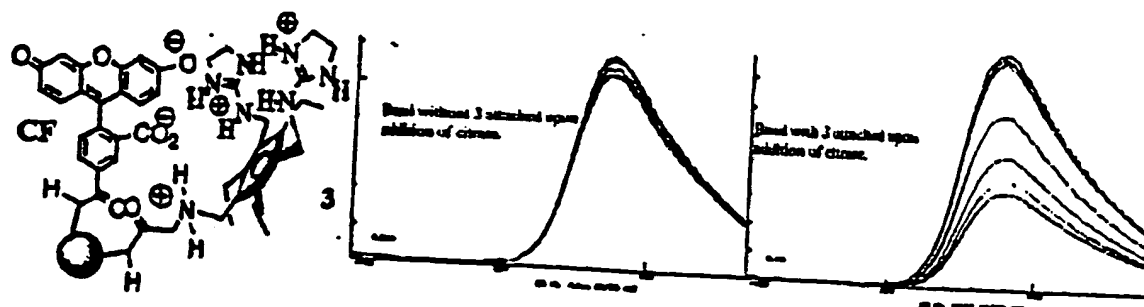


FIG. 54

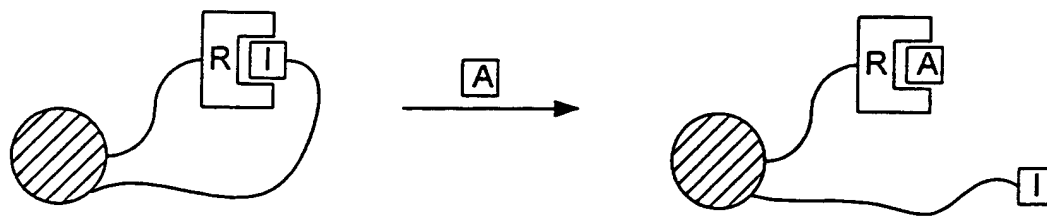


FIG. 55A

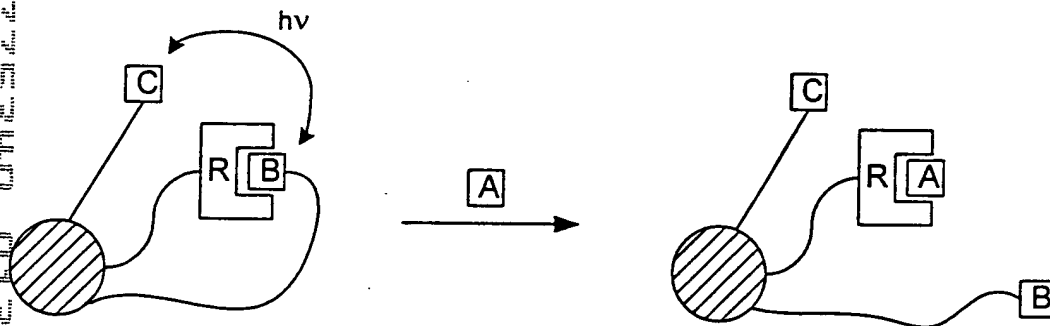


FIG. 55B

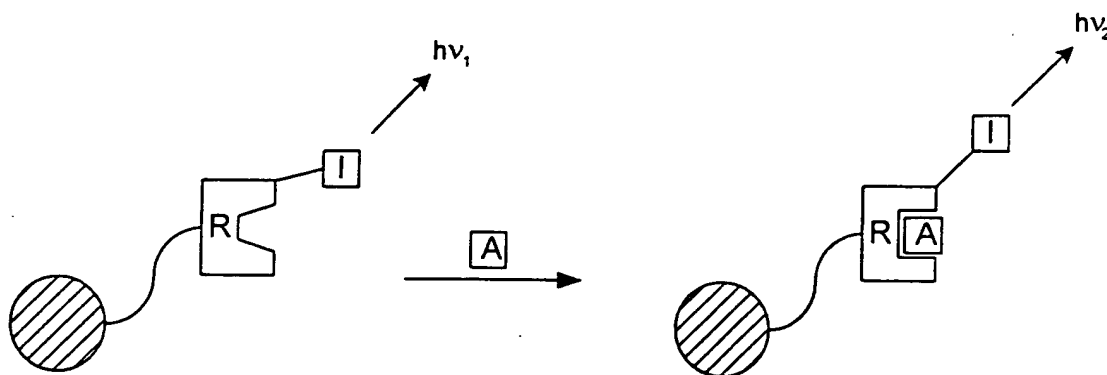


FIG. 55C

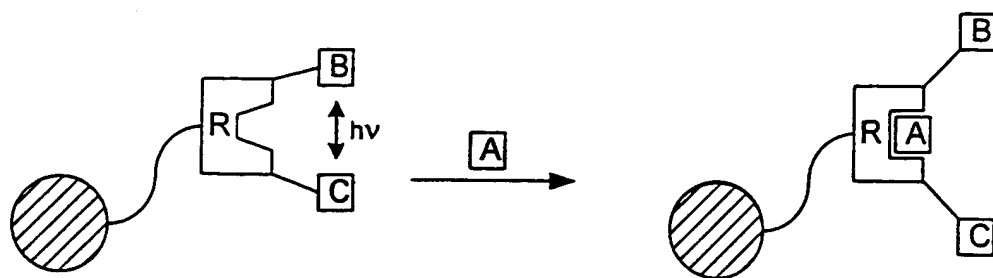


FIG. 55D

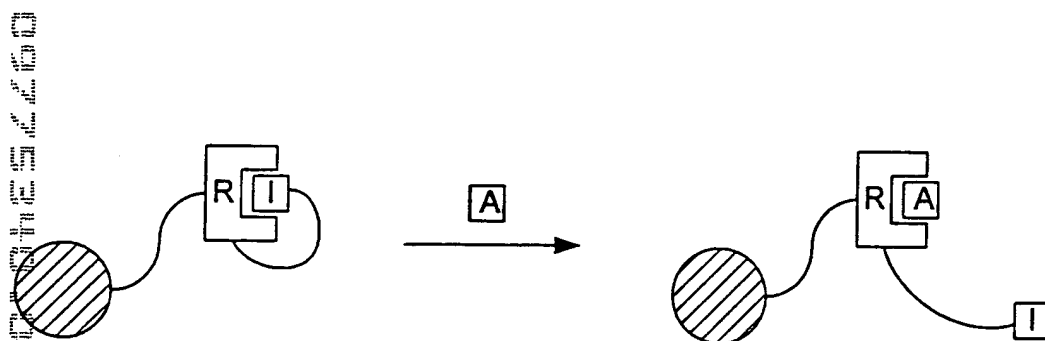


FIG. 55E

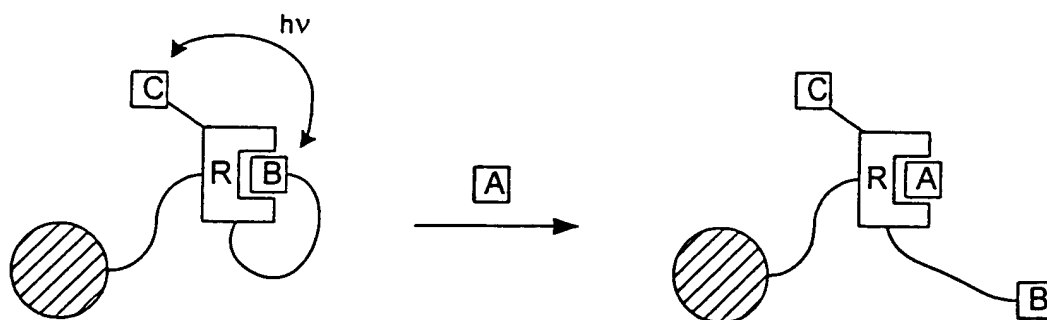


FIG. 55F

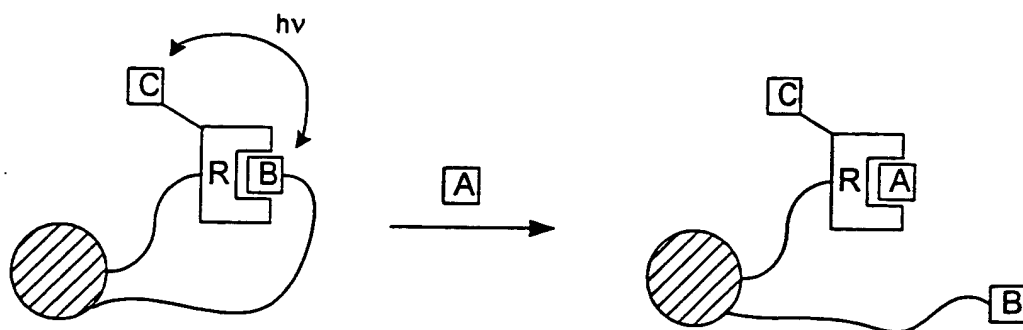


FIG. 55G

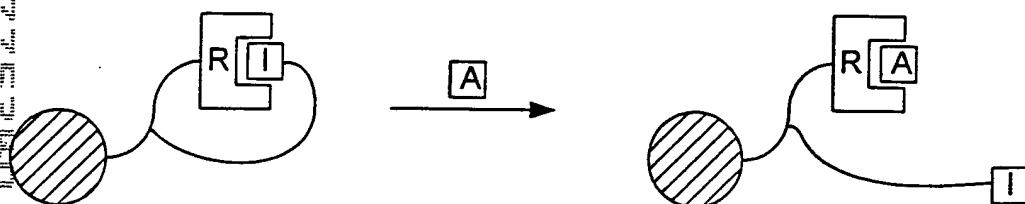


FIG. 55H

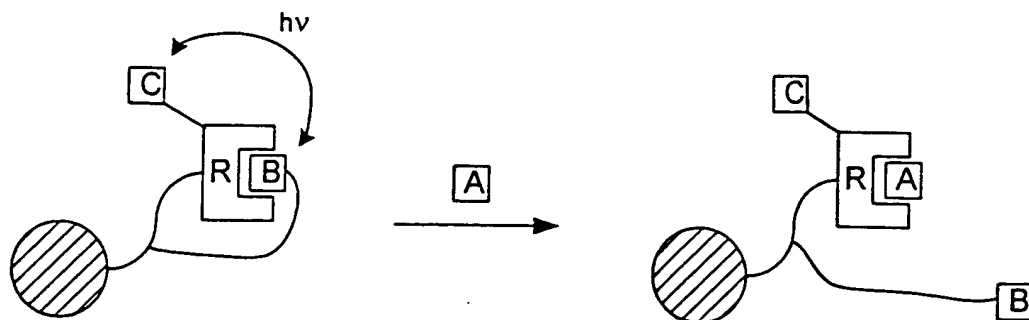


FIG. 55I

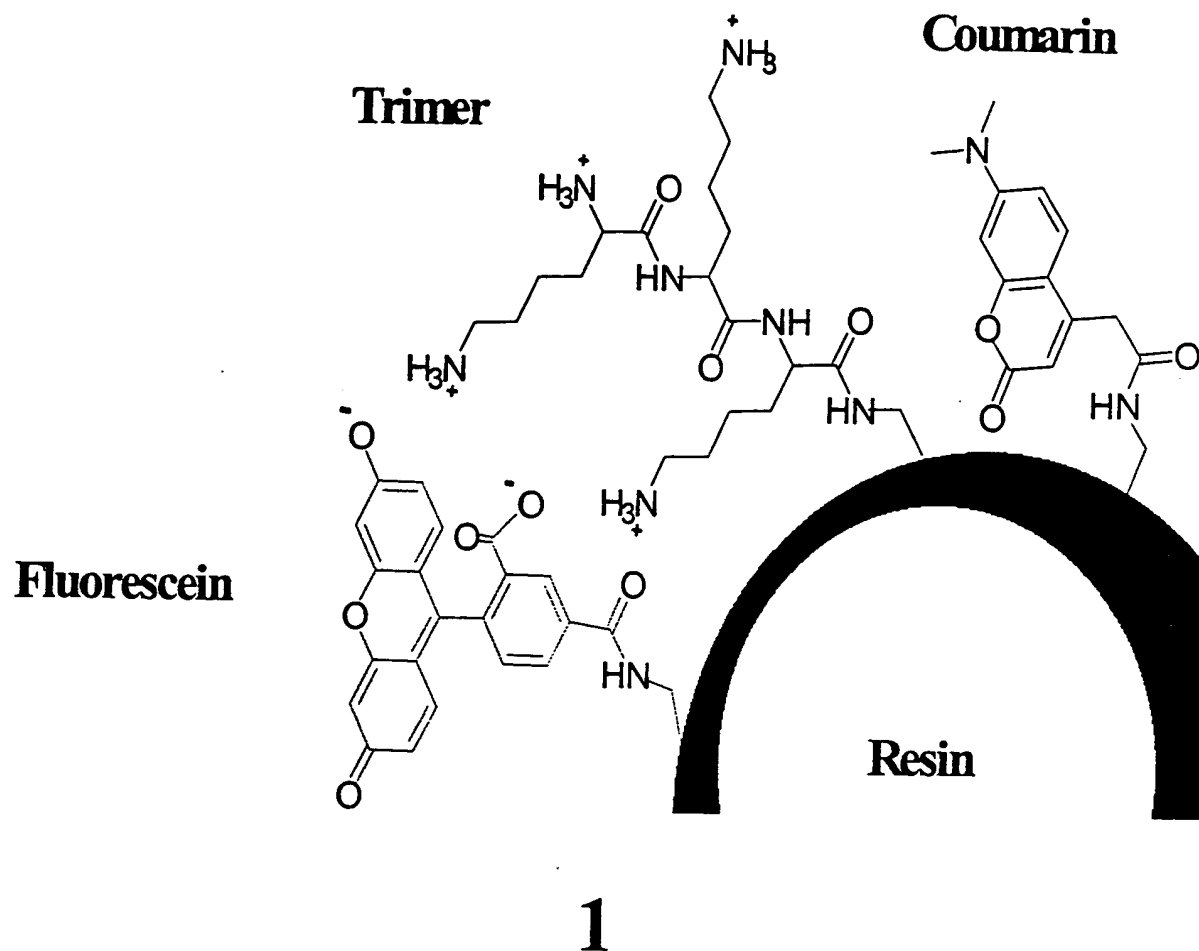


FIG. 56

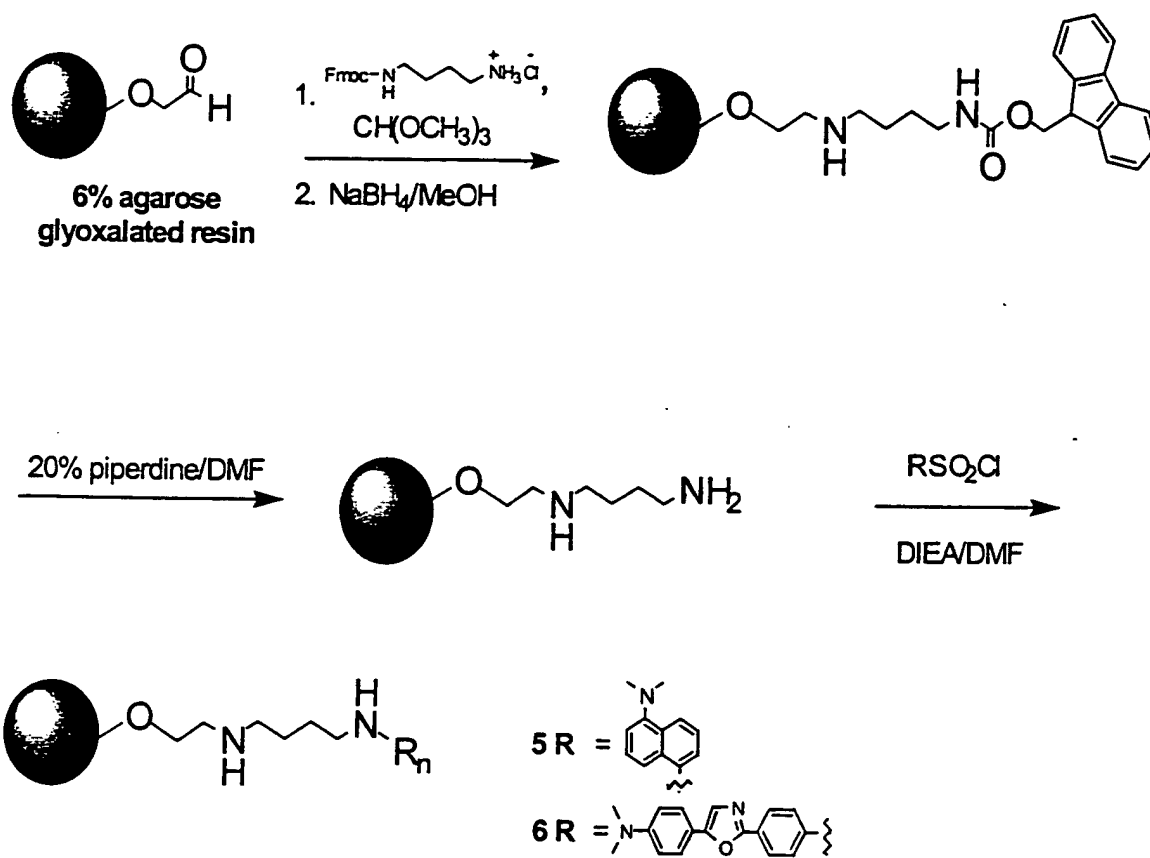


FIG. 57

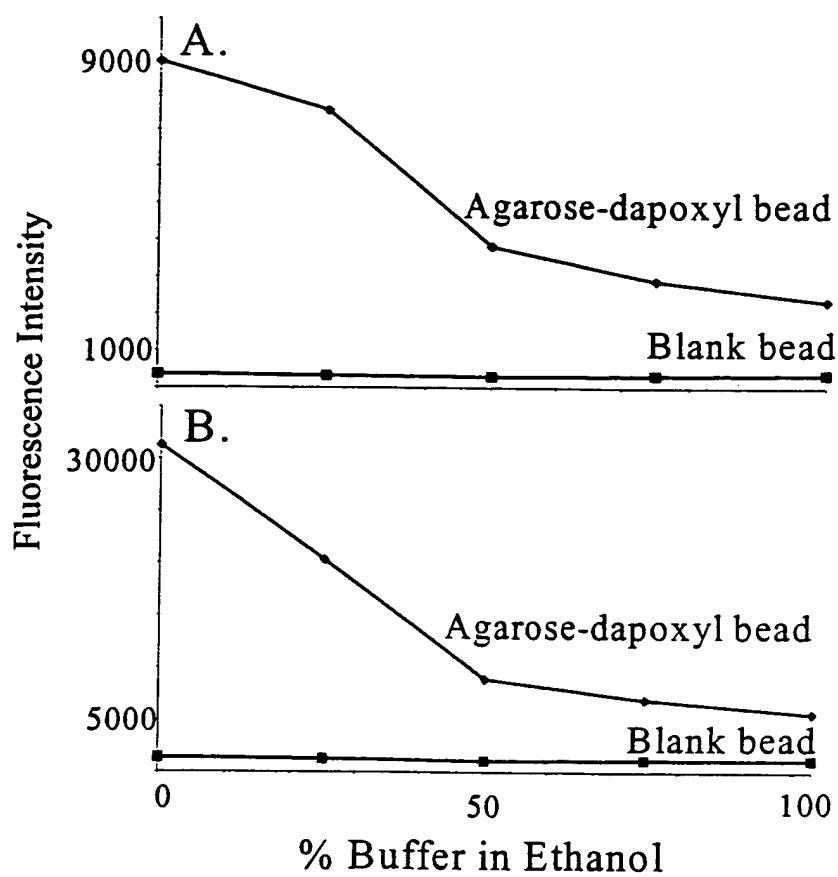


FIG. 58

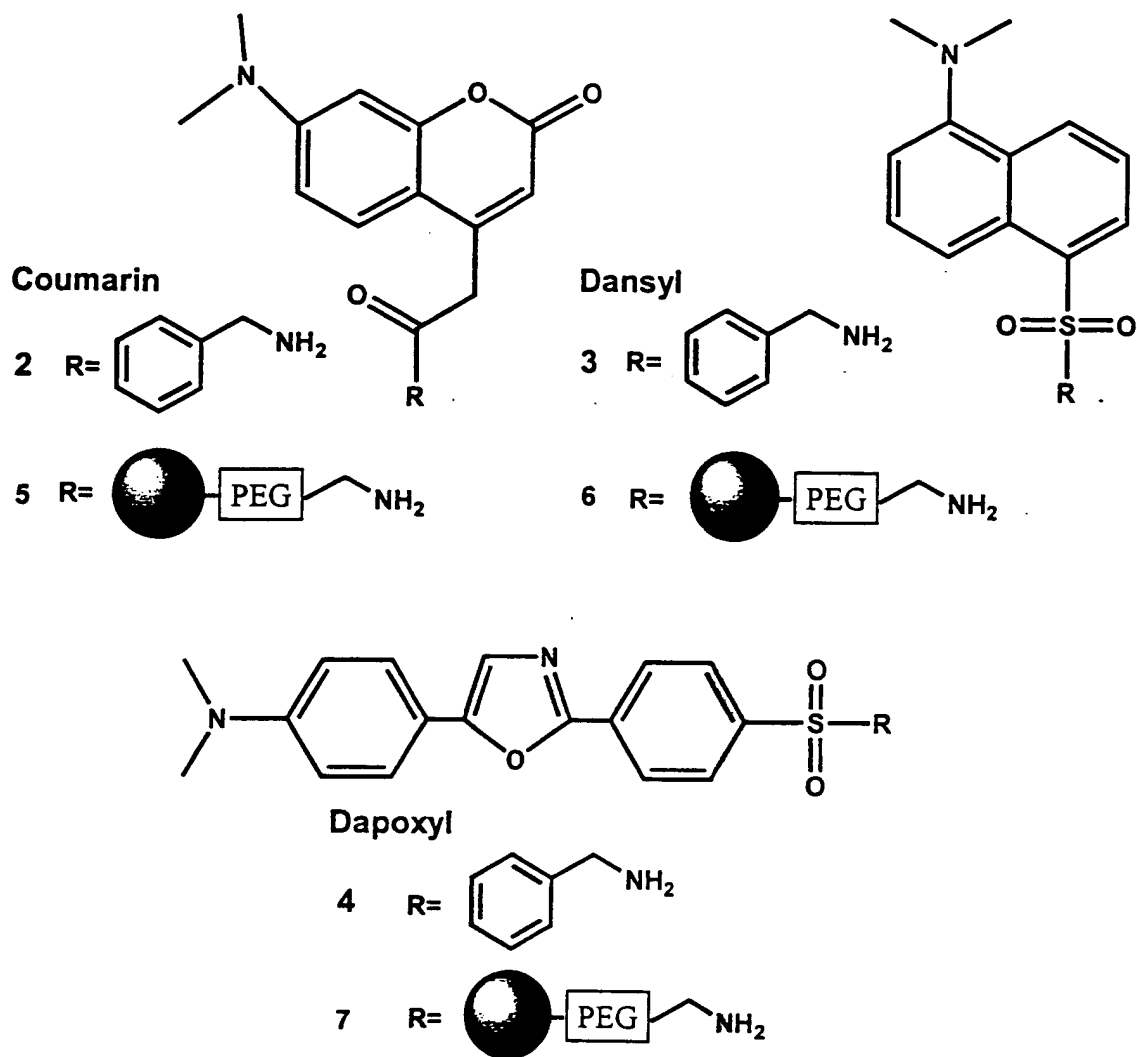


FIG. 59

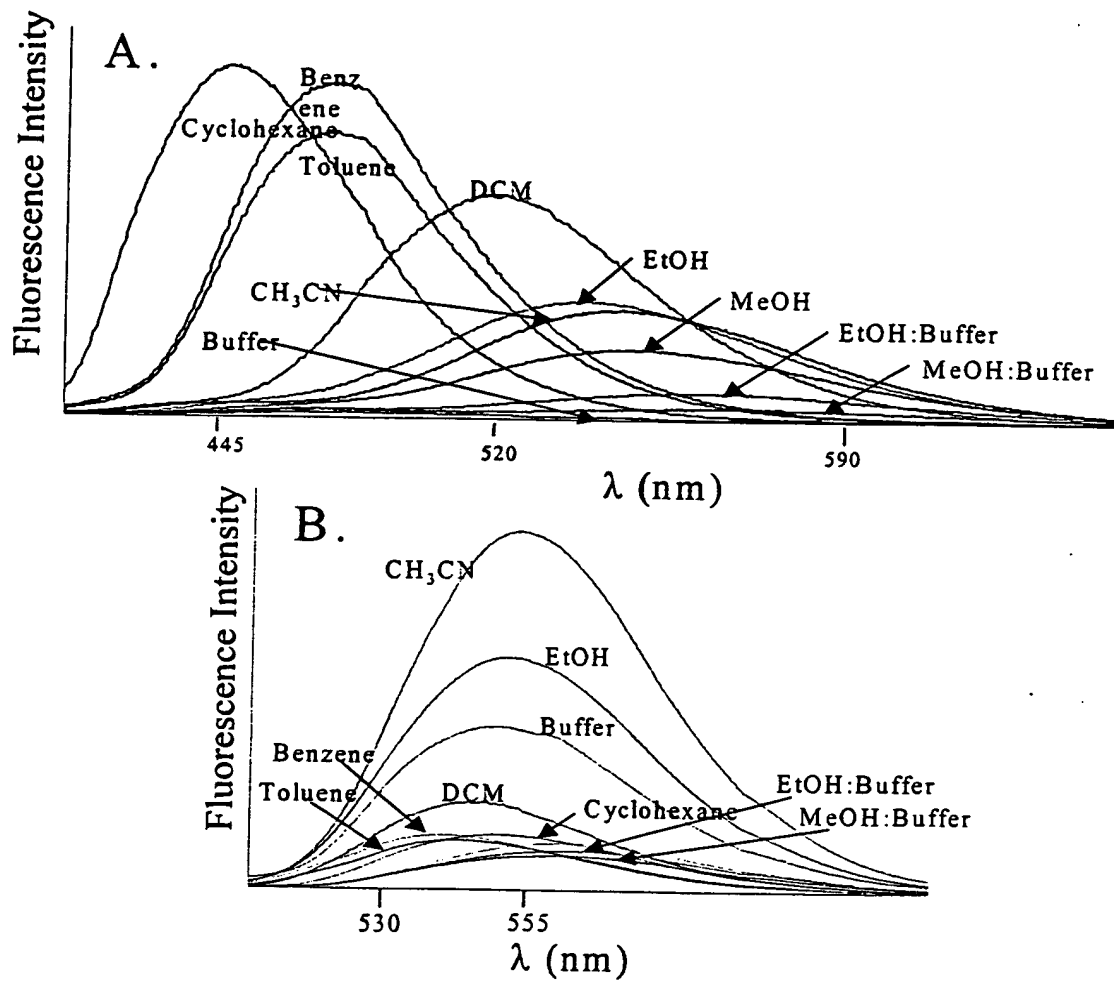
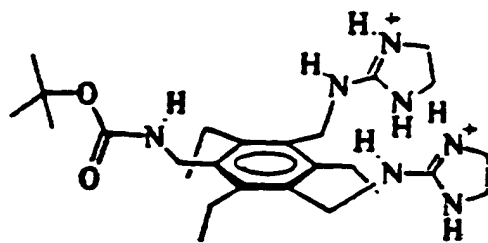


FIG. 60



1

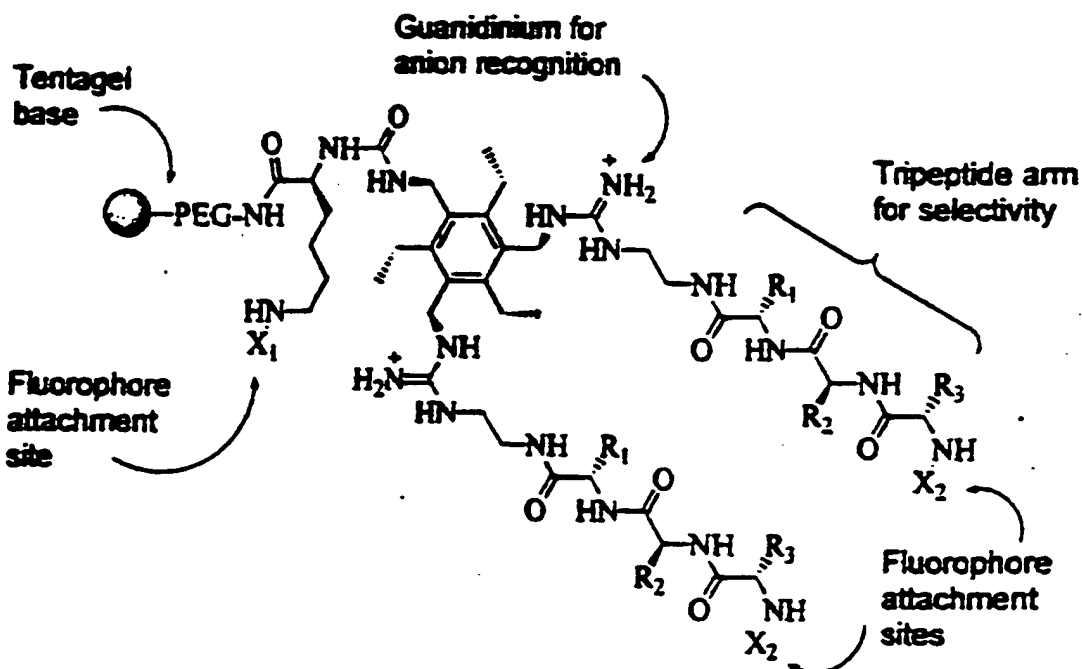
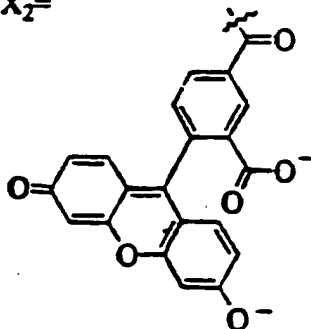
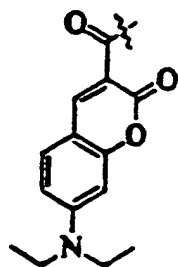
2: $X_1 = X_2 = H$ 3: $X_1 =$ $X_2 =$ 

FIG. 61

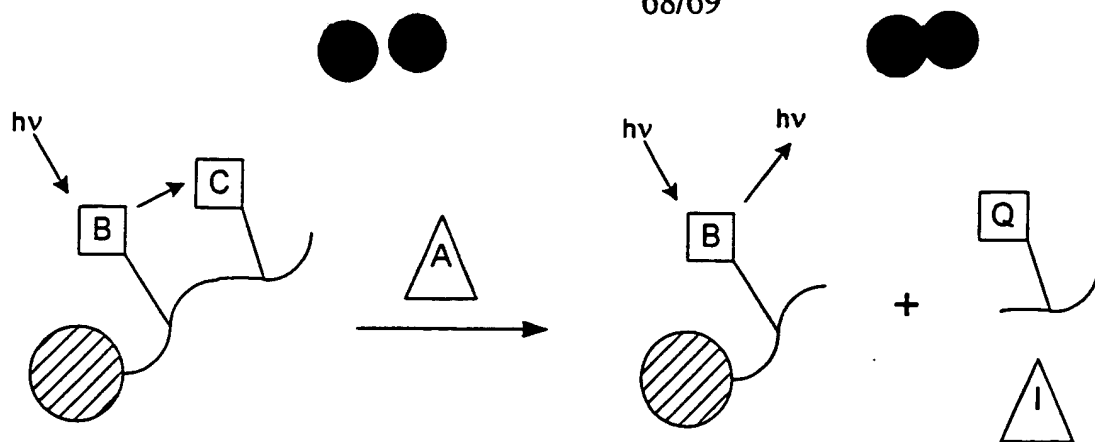


FIG. 62A

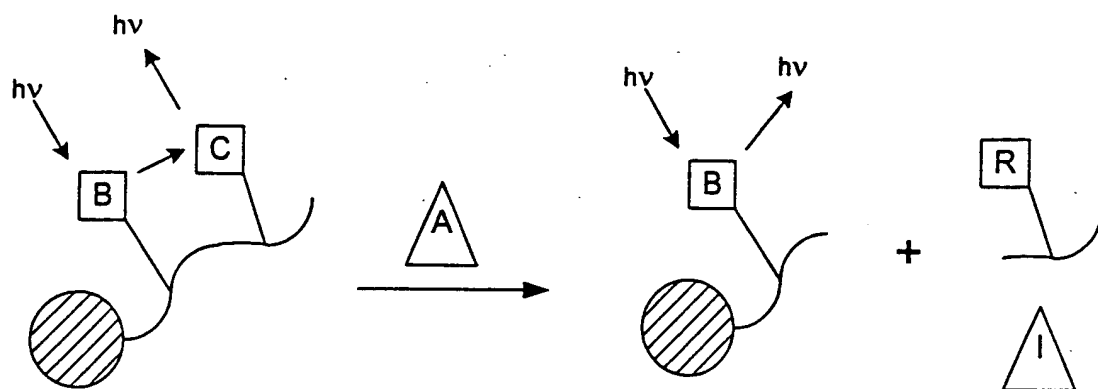


FIG. 62B

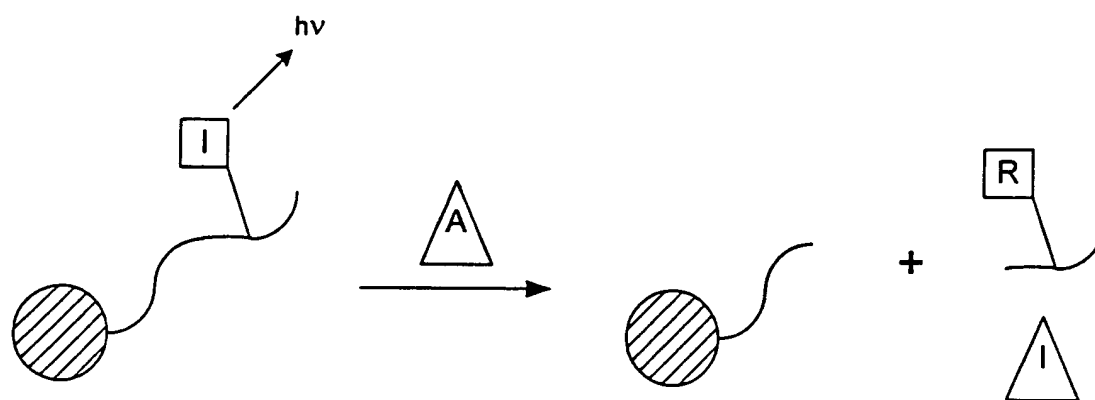


FIG. 62C

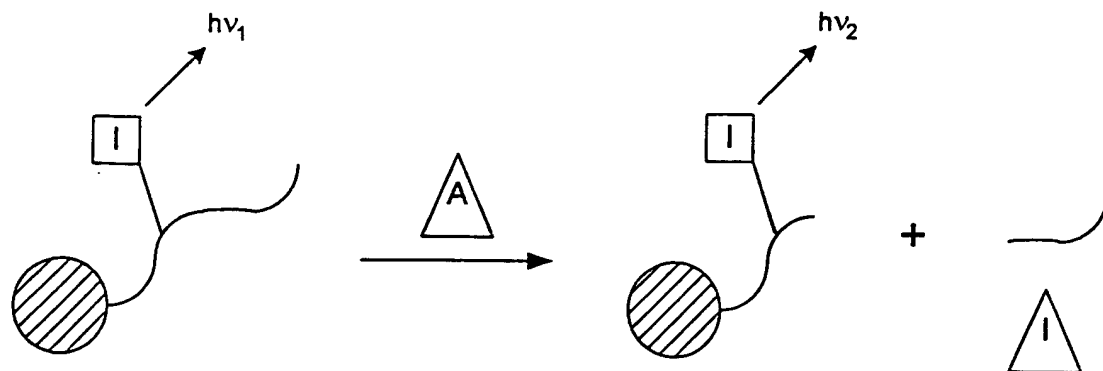


FIG. 62D

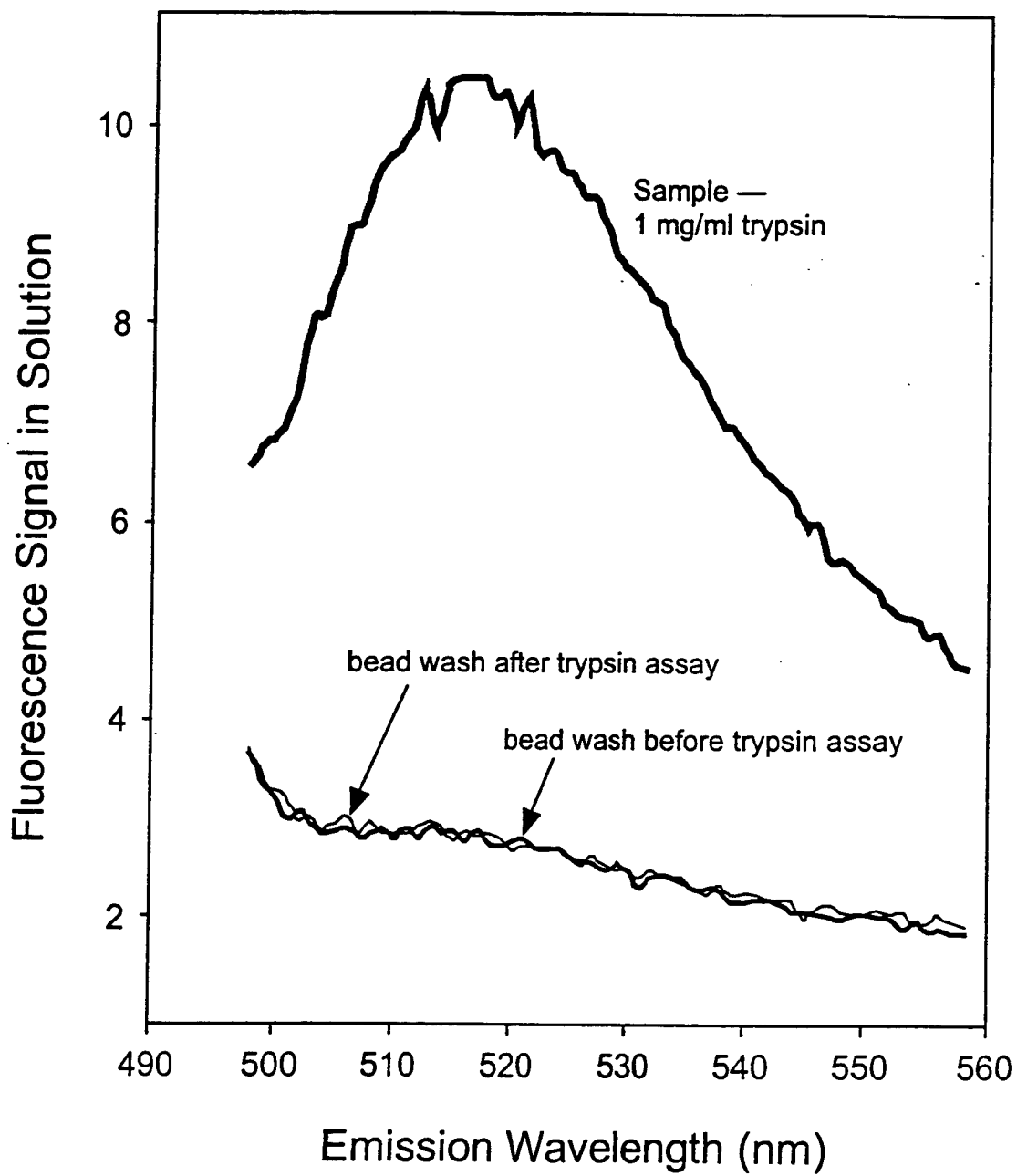


FIG. 63

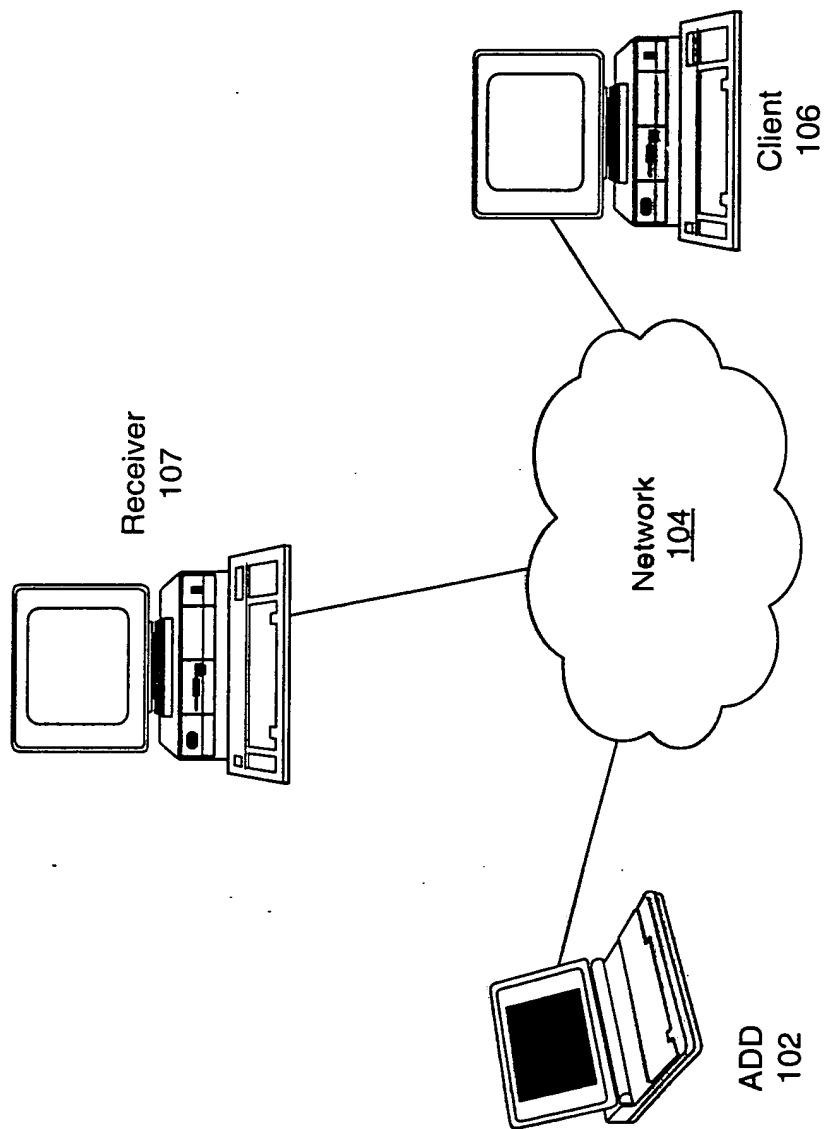


FIG. 64

FIG. 65

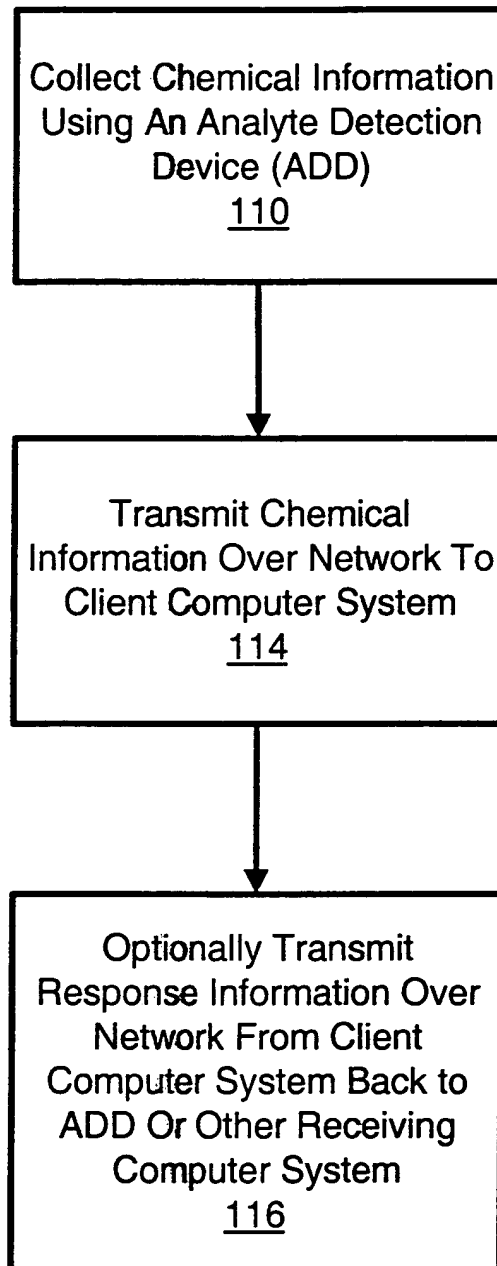


FIG. ~~64~~ 65

FIG. 66

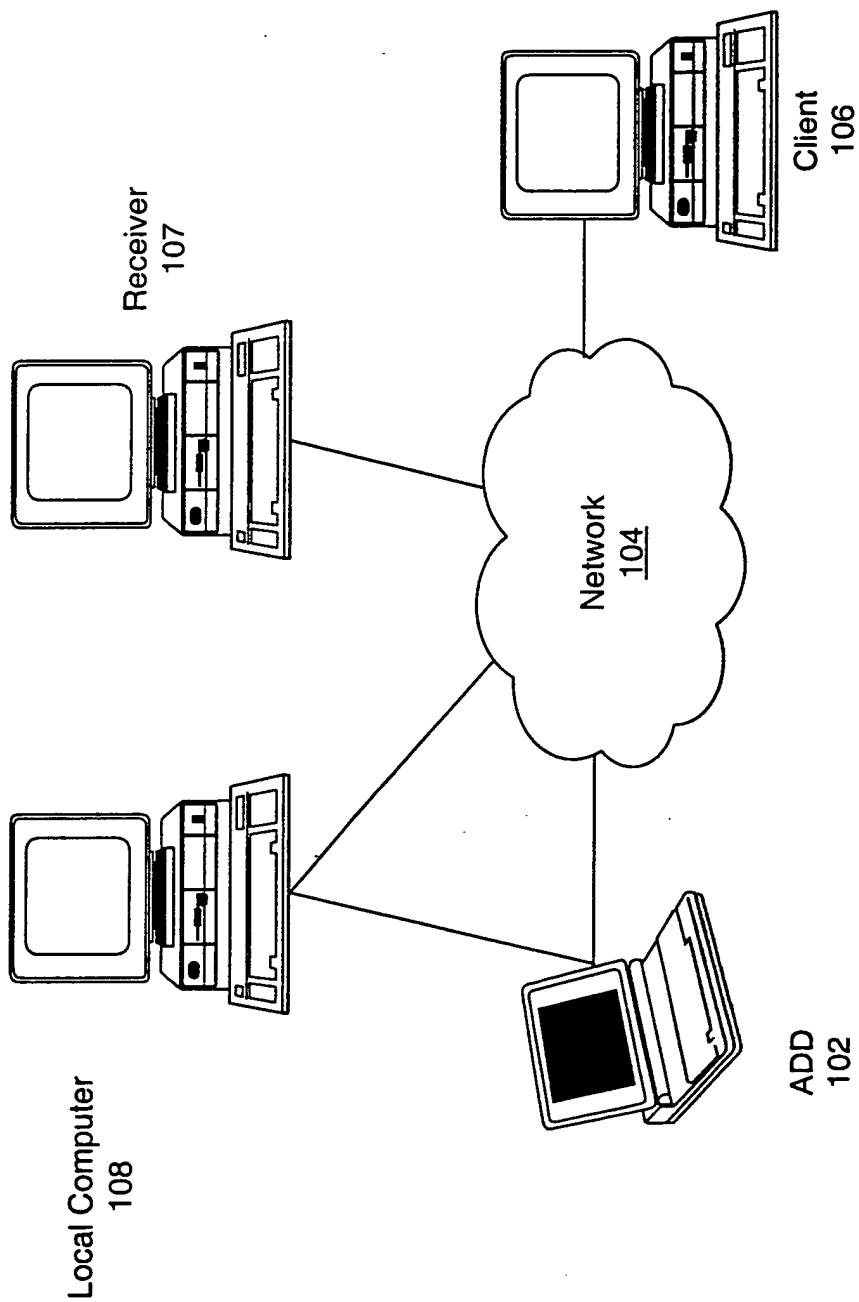


FIG. 66

FIG. 67

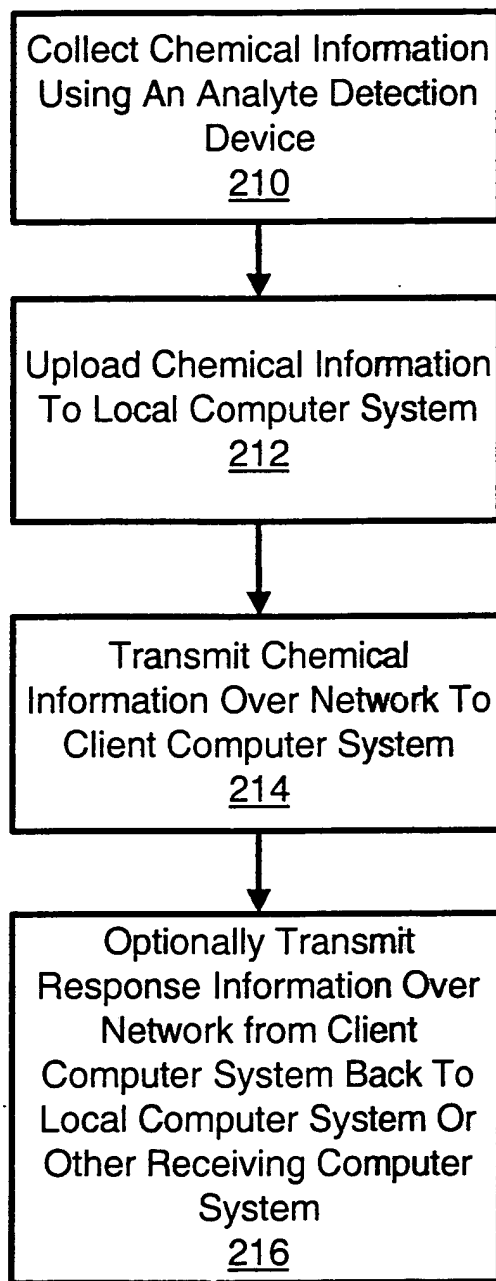


FIG. 67

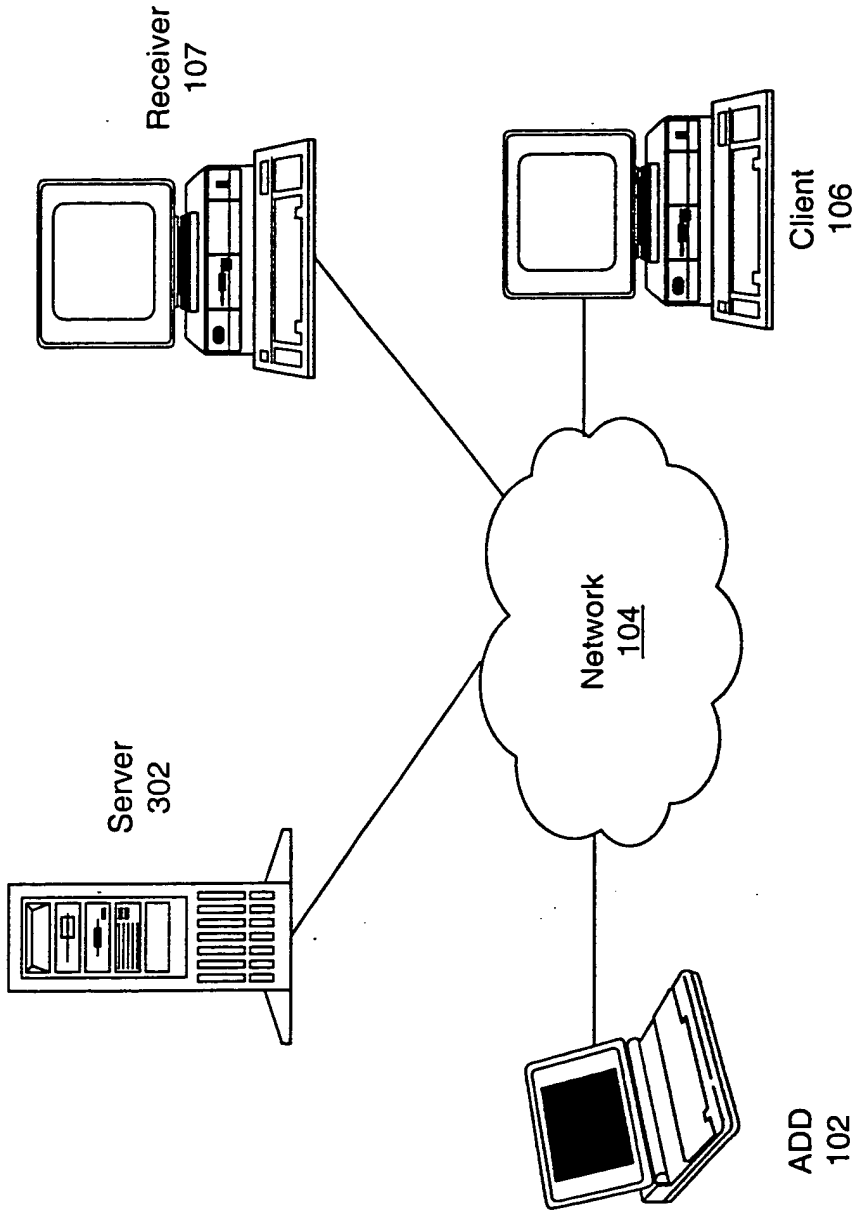


FIG. 68

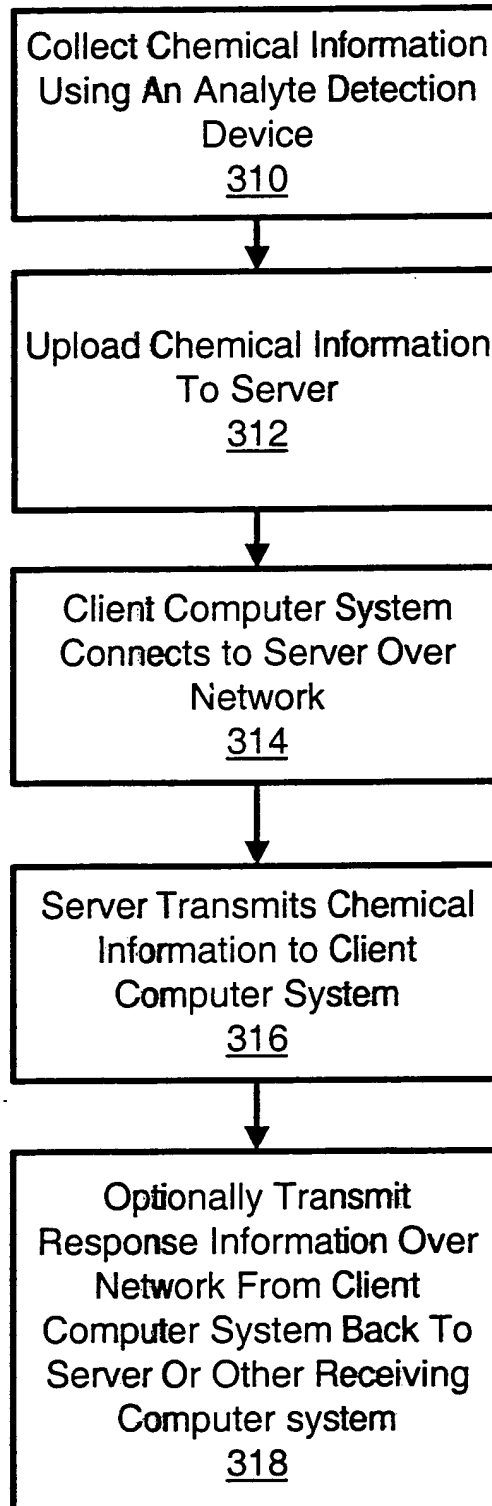


FIG. 69

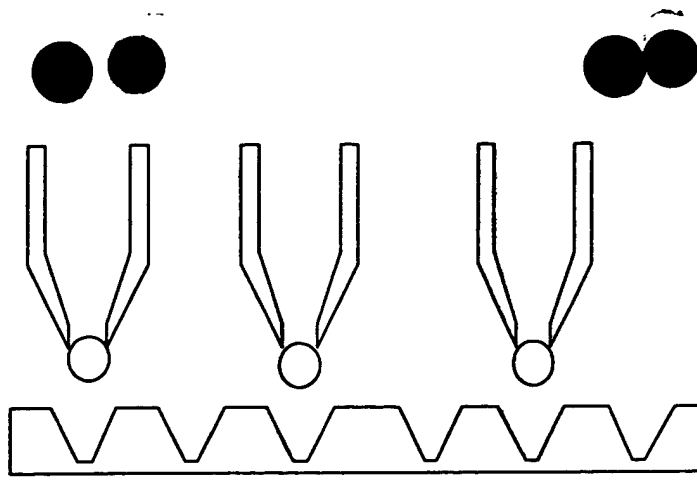


FIG. ~~52A~~ 70A

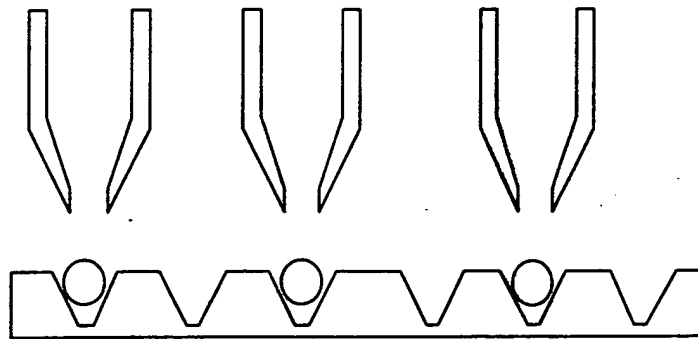


FIG. ~~52B~~ 70B

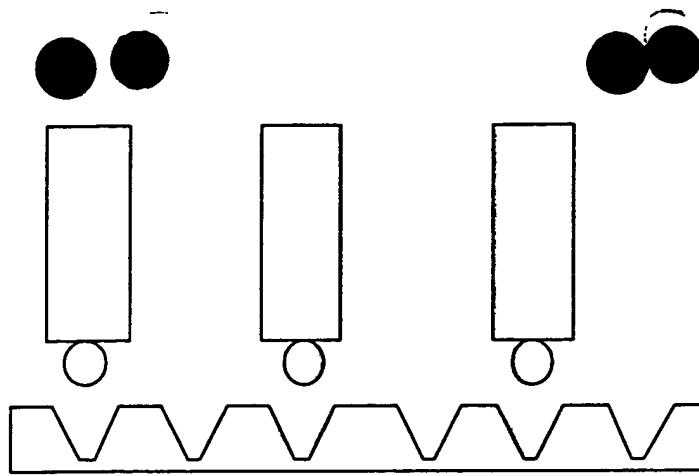


FIG. 58 71A

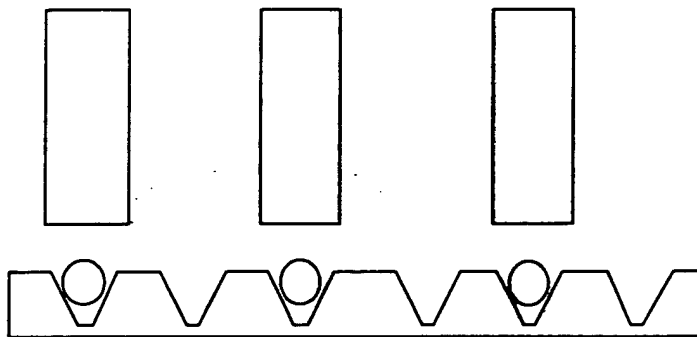


FIG. 59 71B

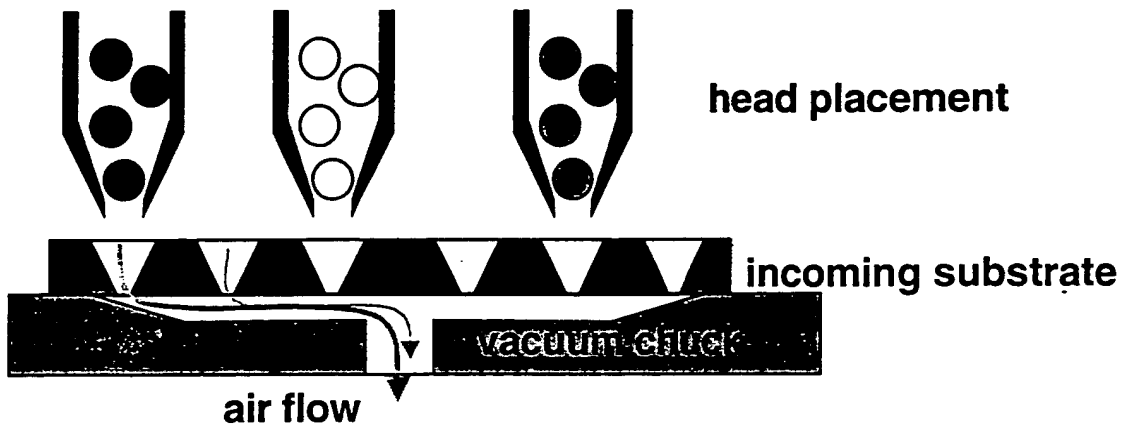


FIG. 72A

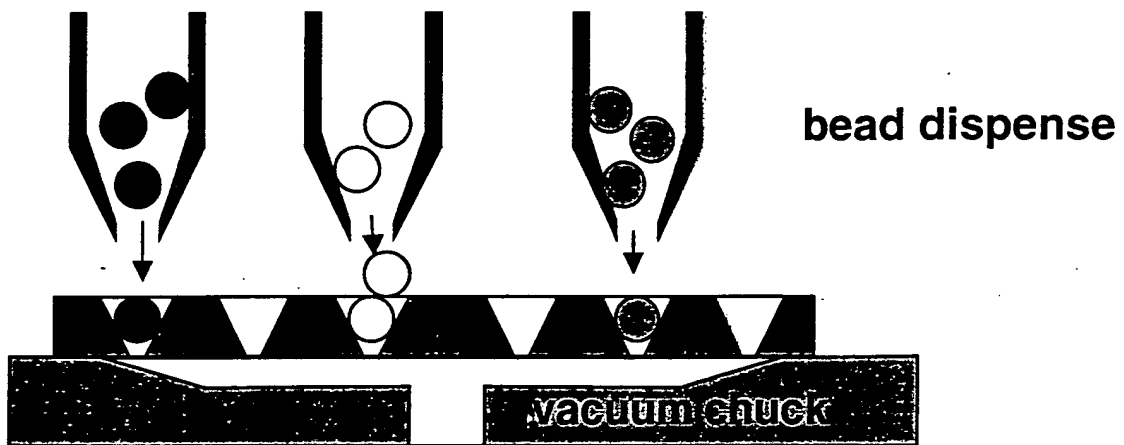


FIG. 72B

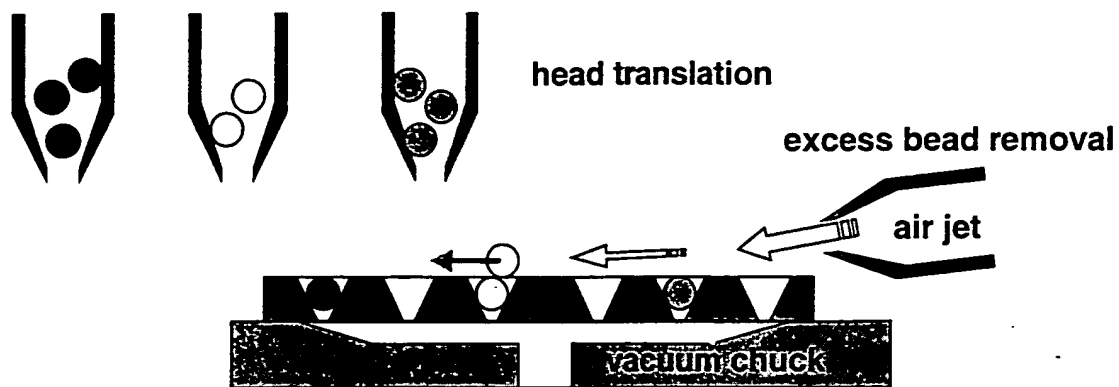


FIG. 592 72 C

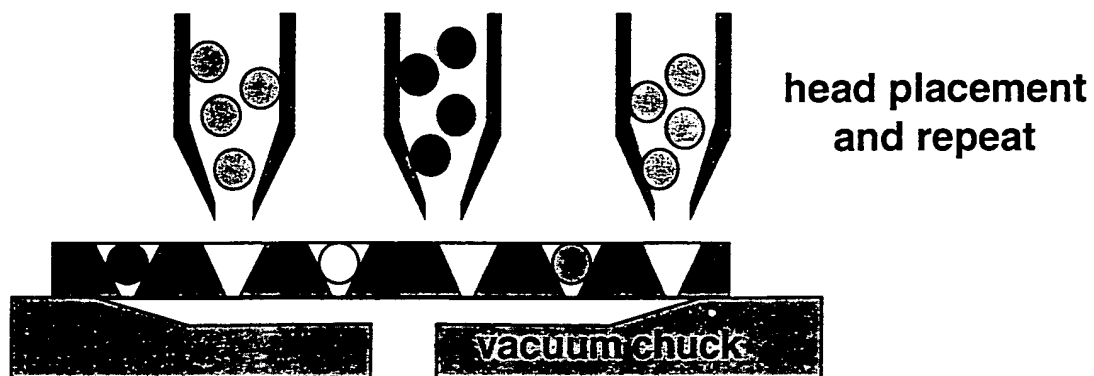


FIG. 592 72 D

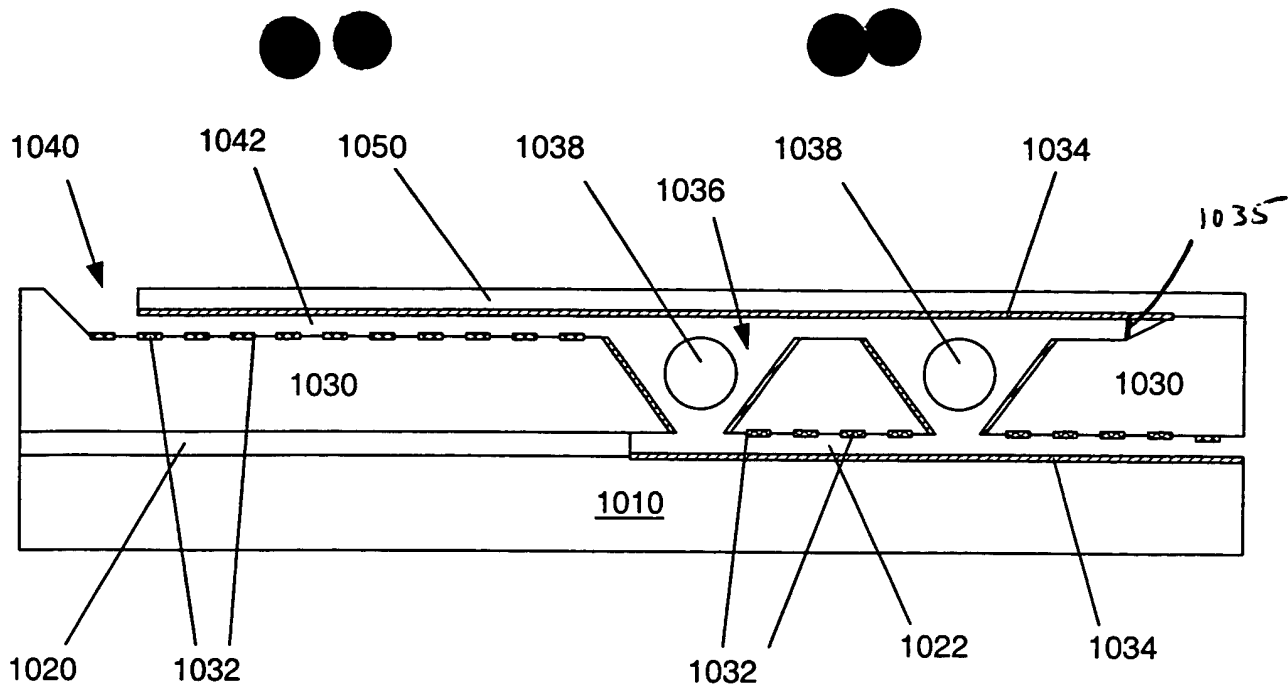


FIG. 73

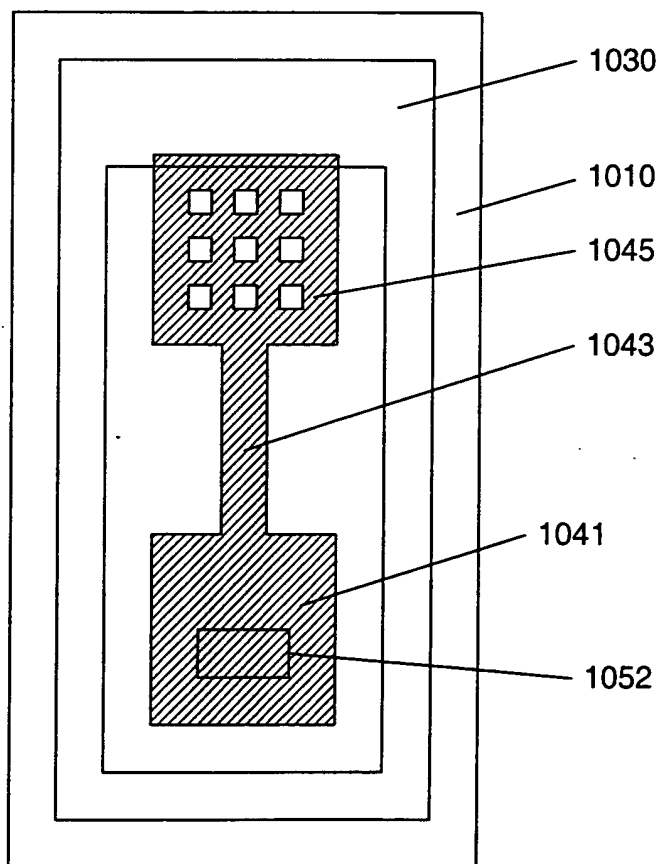


FIG. 74A

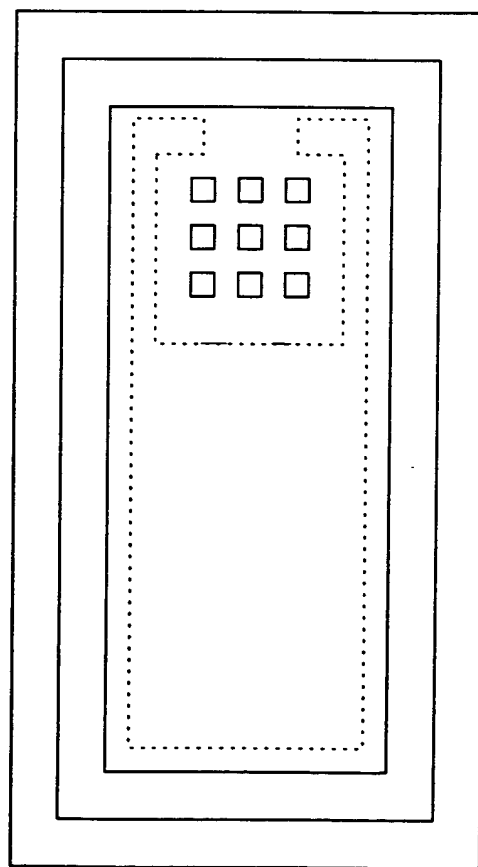


FIG. 74B

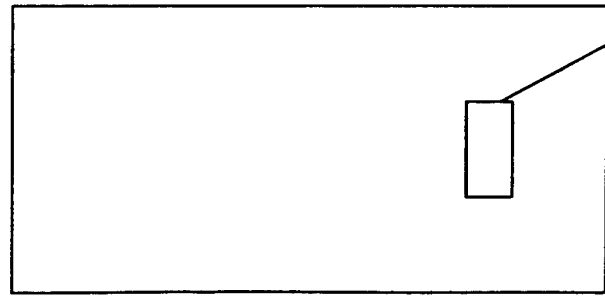


FIG. 50A
75

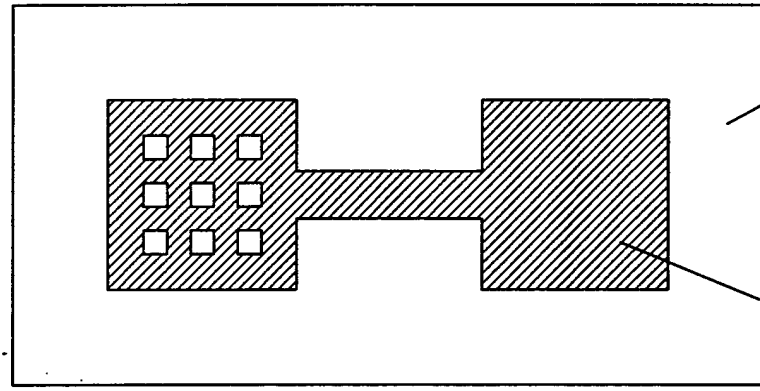


FIG. 50B
75

1031

1033

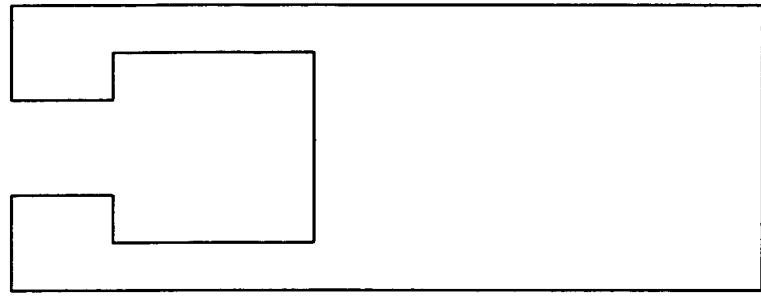


FIG. 50C
75

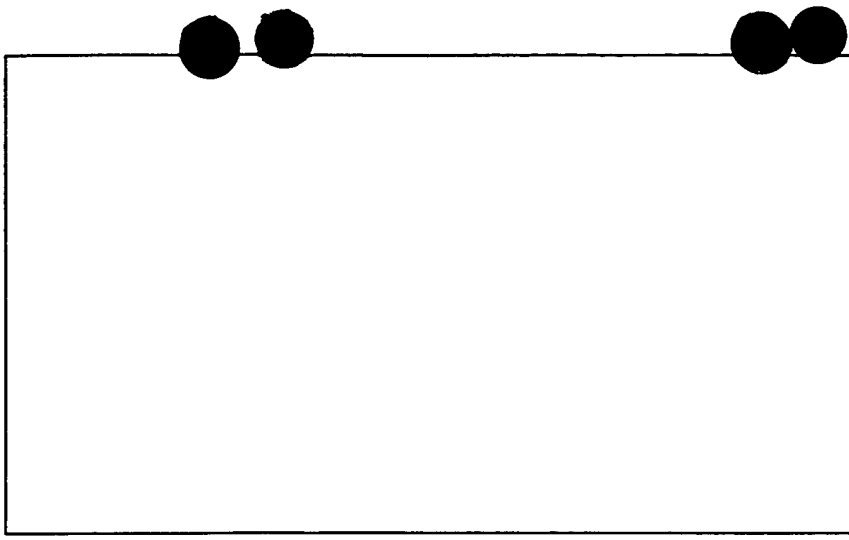


FIG. 50D
75

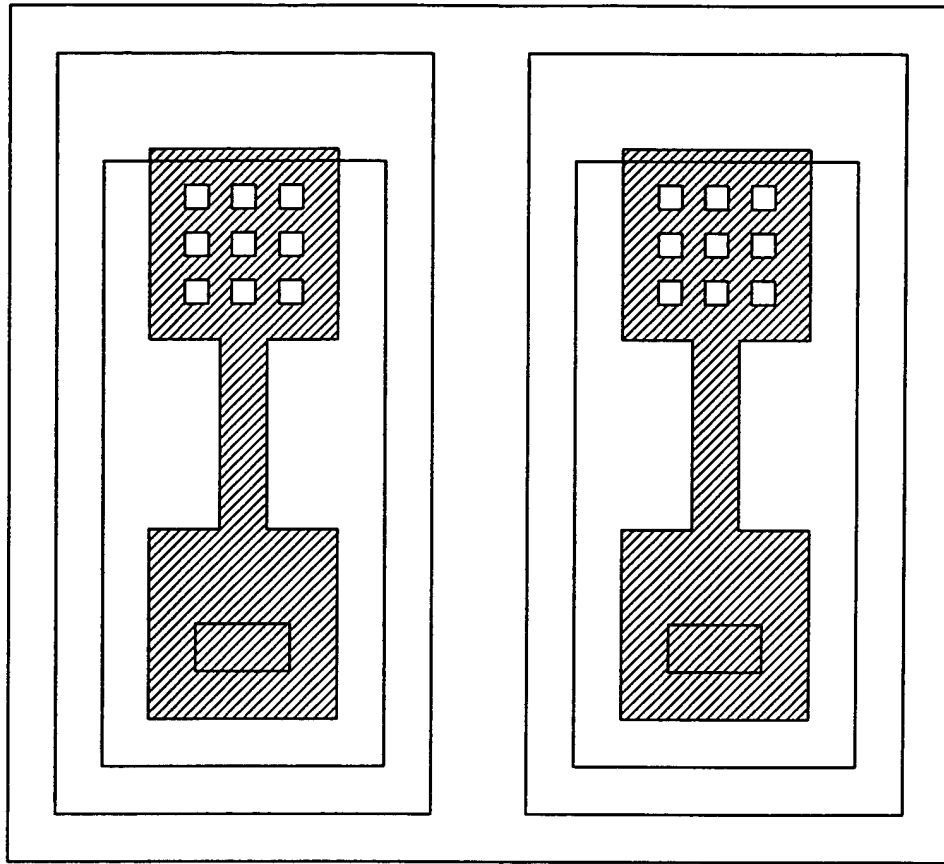


FIG. 76

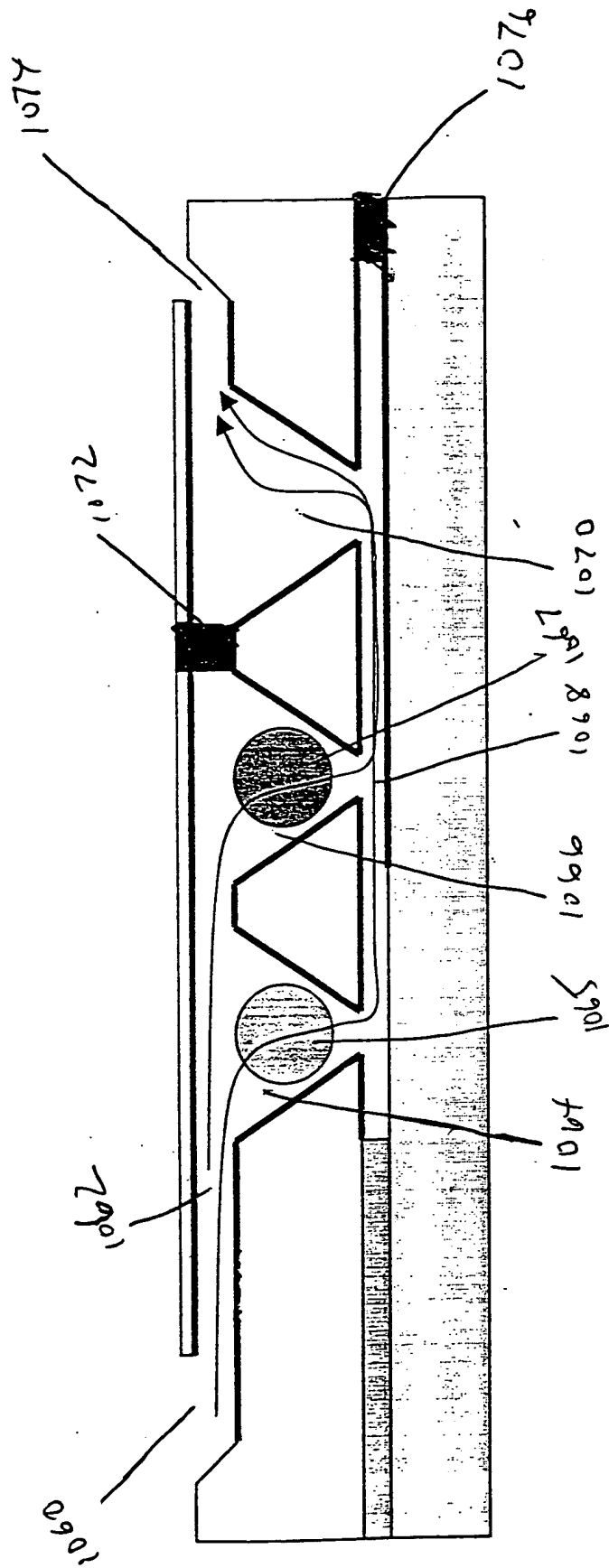


FIG. 77

FIG. 78

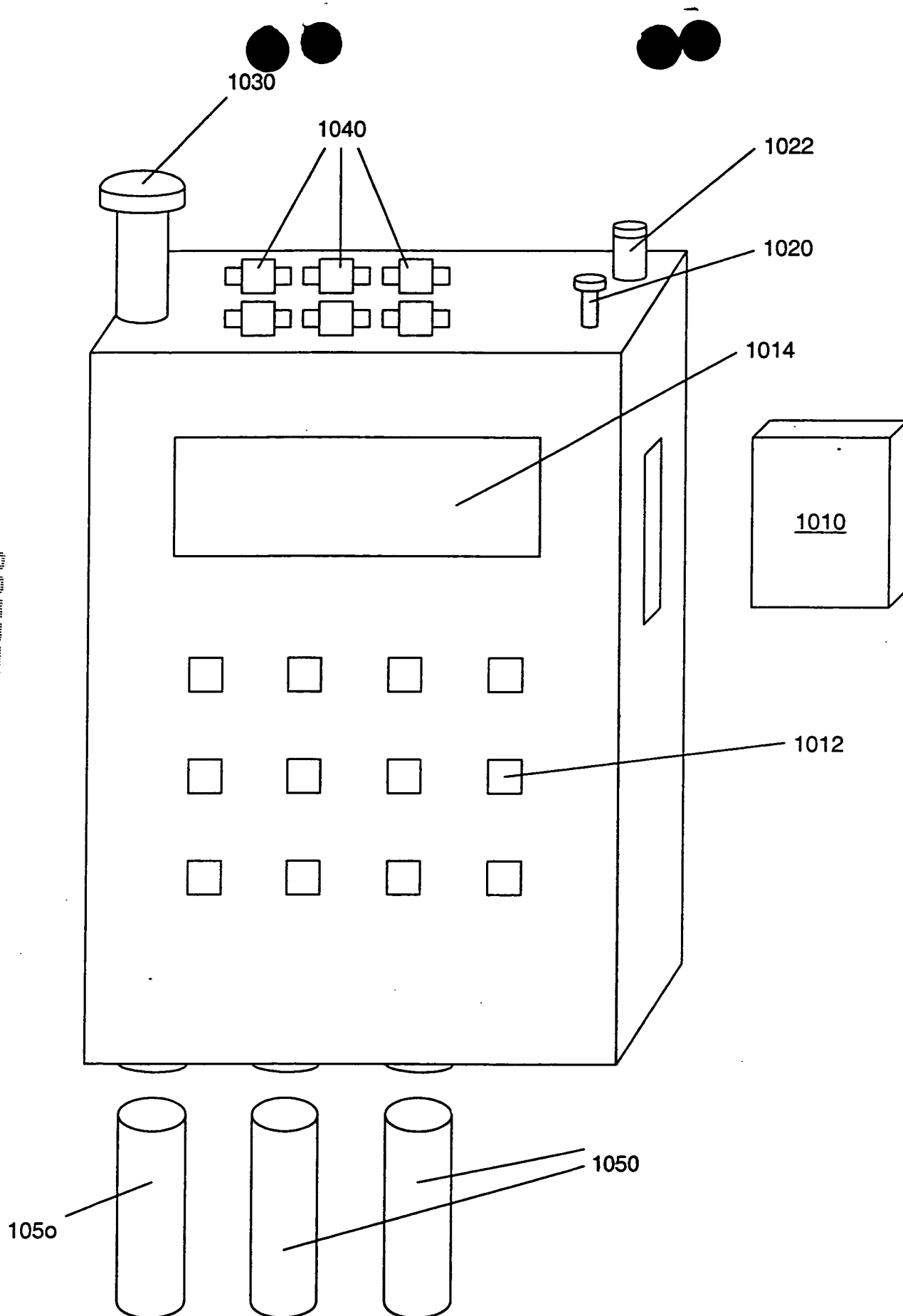


FIG. 78

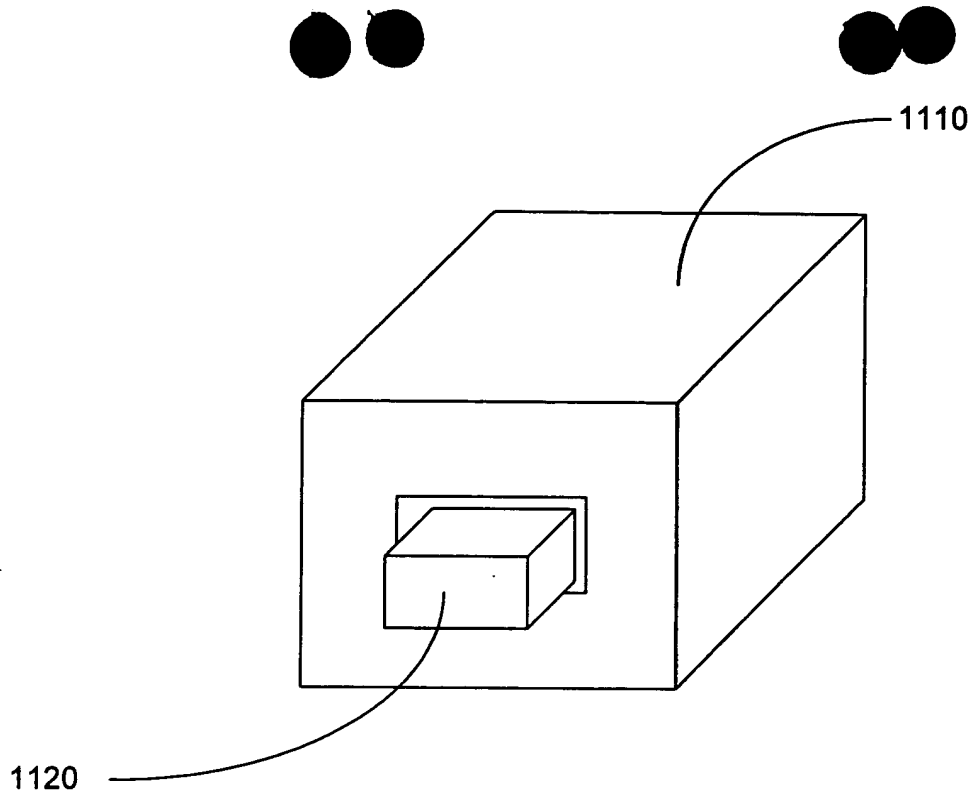


FIG. 79A

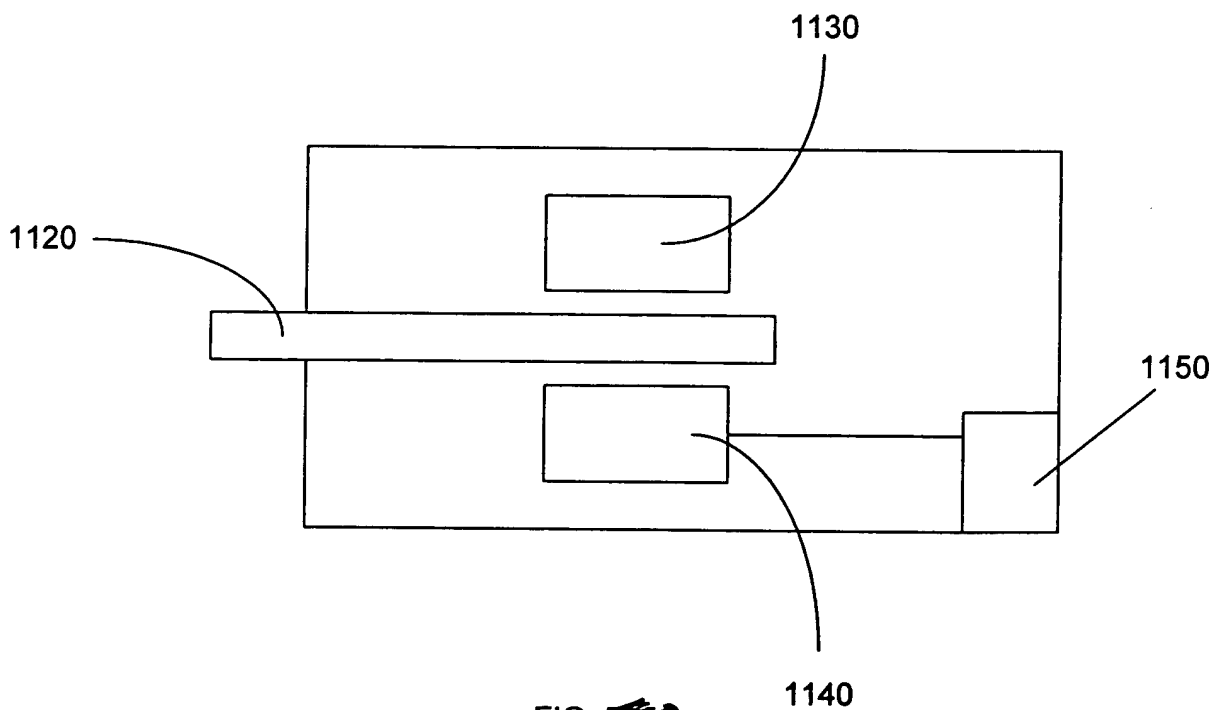
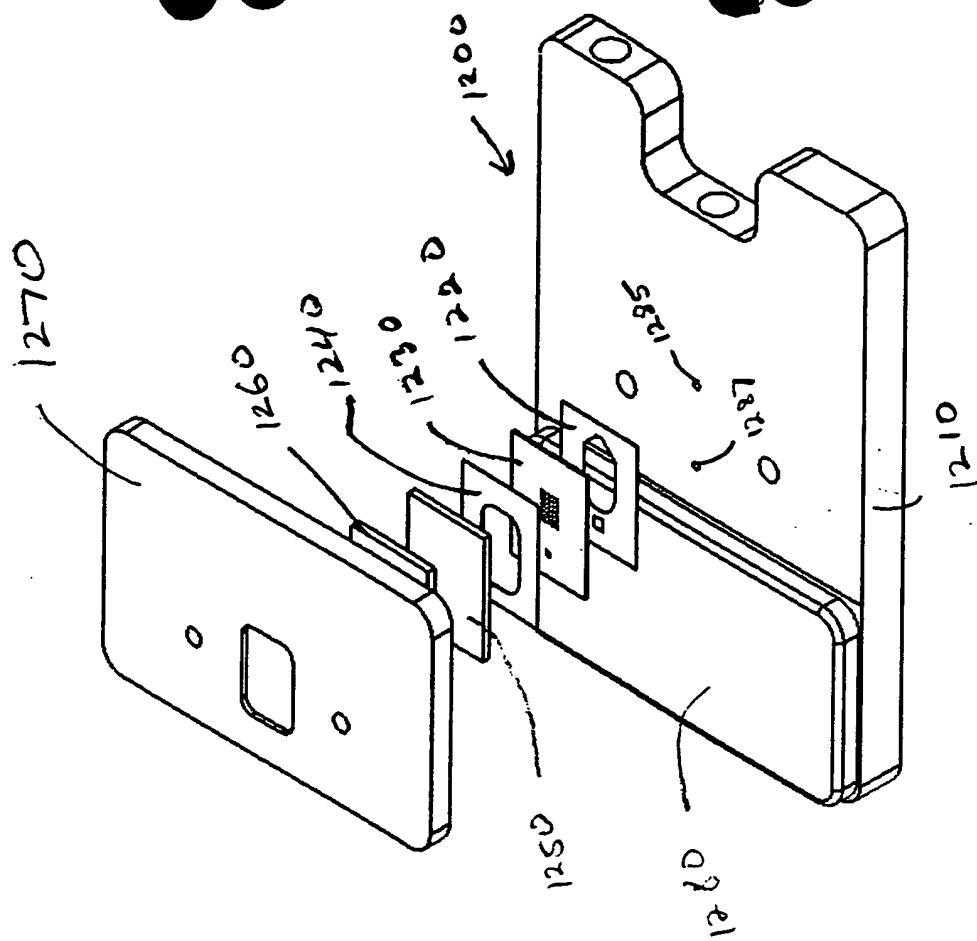


FIG. 79B



8016

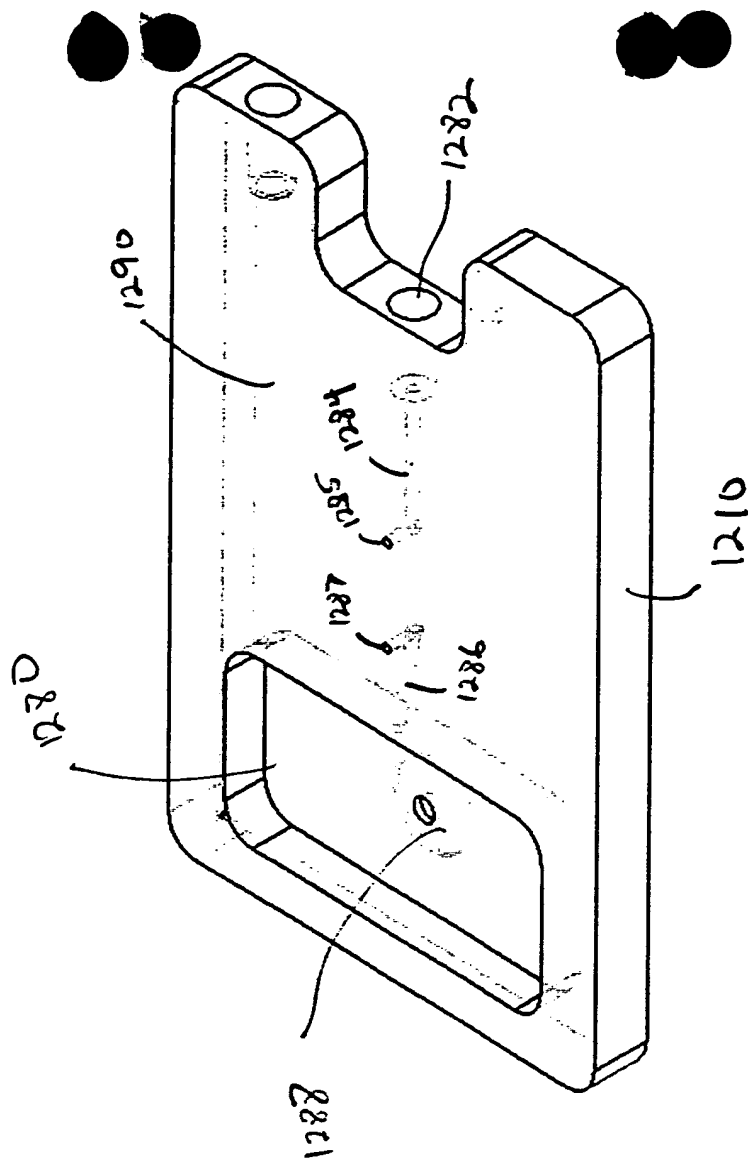
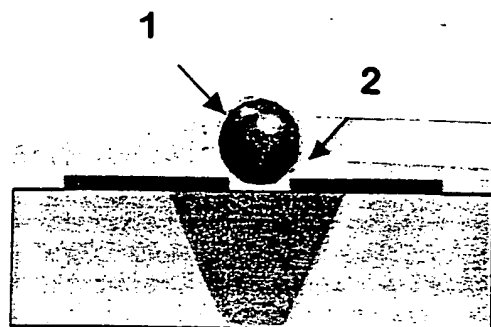
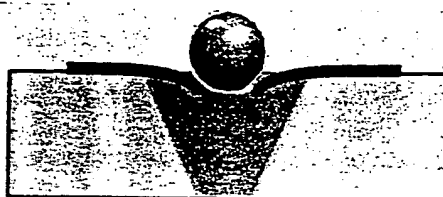


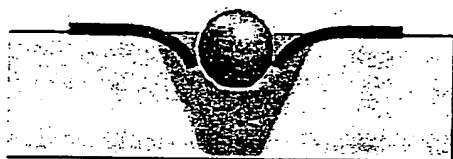
FIG. 81



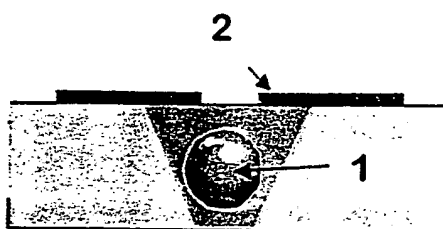
(a)



(b)



(c)



(d)

Figure 182

0975340-0140